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THE GREAT EXHIBITION.

MODEL HOUSES FOR THE WORKING CLASSES.

THE countless visitors to the great international Exhibition will not pass unnoticed the contributions of Prince Albert to the World's Show, if they are but made acquainted with the fact that his Royal Highness, who seems to unite goodness of heart with clearness of head in no usual degree, has exhibited, without the walls of the Crystal Palace, a contribution not less important, and in many respects far more interesting than most of the works of art and utility within. The contribution of his Royal Highness is a block of model houses, erected at the Cavalry Barracks, Hyde-Park. The houses are designed for the accommodation of four families, and were erected by the Prince at his own expense with the view of conveying practical information calculated to promote an improvement in the dwellings of the working classes, and of stimulating visitors to the Exhibition, whose position and circumstances may fit them for the task, to imitate his example.

In its general arrangement, the building, as we learn from the explanatory document which has been put into our hands, is adapted for the occupation of four families of the class of manufacturing and mechanical operatives, who usually reside in towns or in their immediate vicinity; and, as the value of land, which leads to the economising of space, by the placing of more than one family under the same roof, in some cases renders the addition of a third, and even of a fourth story desirable, the plan has been suited to such an arrangement, without any other alteration than the requisite increase in the strength of the walls.

The most prominent peculiarity of the design is that of the receding and protected central open staircase, with the connecting gallery on the first floor, formed of slate, and sheltered from the weather by the continuation of the main roof, which also screens the entrances to the dwellings. The four tenements are arranged on precisely the same plan, two on each floor. The entrance is through a small lobby, lighted from the upper part of the door. The living-room has a superficial area of about 150 feet, with a closet on one side of the fireplace, to which warm air may be introduced from the back of the range; the corresponding recess may be fitted up with shelves; and on the opposite side of the room a shelf is carried above the doors, with a rail fixed between them.

The scullery is fitted up with a sink, beneath which is a coal-bin of slate. A plate-rack at one end, drained by a slate slab into the sink, covers the entrance to the dust-shaft, which is enclosed by a balanced self-acting iron door. The dust-shaft leads into a closed depository under the stairs, and has a ventilating flue carried up above the roof. At one end of the scullery is an inclosure forming a meat-safe, ventilated through the hollow brickwork: shelves are fixed over the doors, and a dresser-flap against the partition wall.

The sleeping apartments, being three in number, provide for that separation which, with a family, is so essential to morality and decency. Each has its distinct access, and a window into the open air; two have fire-places.

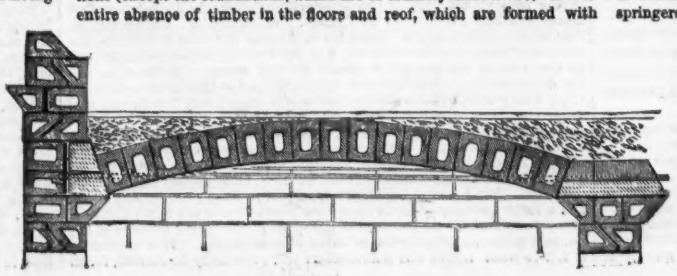
The children's bed-rooms contain 50 feet superficial each; and, opening out of the living-room, an opportunity is afforded for the exercise of parental watchfulness, without the unwholesome crowding of the living-room by its use as a sleeping apartment.

PRINCE ALBERT'S MODEL LODGING-HOUSE.

The parents' bed-room, with a superficial area of about 100 feet, is entered through the scullery—an arrangement in many respects preferable to a direct approach from the living room, particularly in case of sickness. The recess in this room provides a closet for linen; and a shelf is carried over the door, with a rail fixed beneath it—a provision which is made in each of the other bed-rooms.

The water-closet is fitted up with a Staffordshire glazed basin, which is complete without any wood fittings, and supplied with water from a slate cistern in common of 160 gallons, placed on the roof over the party and staircase walls. The same pipes which carry away the rain-water from the roof serve for the use of the closets.

The peculiarities of the building in constructive arrangement are, the exclusive use of hollow bricks for the walls and partitions (except the foundations, which are of ordinary brickwork), and the entire absence of timber in the floors and roof, which are formed with flat arches of hollow brickwork, rising from eight to nine inches, set in cement, and tied in by wrought-iron rods connected with cast-iron springers, which rest on the external walls, and bind the whole structure together; the building is thus rendered fire-proof, and much less liable to decay than those of ordinary construction. The roof arching, which is levelled with concrete, and covered with patent metallic lava, secures the upper-rooms from the liability to changes of temperature to which apartments next the roof are generally subject, and the transmission of sound, as well as the percolation of moisture, so common through ordinary floors, is effectually impeded by the hollow brick arched floors.



SECTION OF HOLLOW BRICKWORK

The external and main internal walls are of patent bonded brickwork, which has the important advantage of securing dryness and warmth, with economy of construction. Another important benefit arising from the use of hollow bricks is, that, where they are laid double, in parallel courses, without headers

as in the patent bonded brickwork, the internal face of the wall is sufficiently smooth to render plastering unnecessary. In the present instance, where plastering has been resorted to, it is confined to one side of a thin partition, or to partitions formed with bricks not intended for the situation in which they are used.

In regard to some other parts of the brickwork, it should also be observed, that, owing to the erection of the building having been determined on late in the winter, many difficulties had to be contended with in obtaining a sufficient supply of hollow bricks; and, from accidental circumstances, disappointments were experienced in reference to a considerable number, on which account the structure should be regarded rather as the pledge of future excellence in hollow brick construction than as its full accomplishment.

The glazed surface of the bricks used in the two upper-floor living-rooms and at the foot of the staircase may, however, be referred to as a specimen of what can be accomplished by the skilful adaptation of fitting materials, and as highly creditable to their maker, Mr. Ridgeway, of the Staffordshire Potteries. Specimens of glazed bricks of clay from the north of Devon are also exhibited.

Internally French plaster has been used, as dryh g quicker and having a harder surface than ordinary plaster. The floors, where not of Portland cement, are laid with Staffordshire tiles, except in the right-hand room, first floor, which is of lava, by Orsi and Armandi. The coping is in Portland cement. The external stringcourses and internal cornices are the patent bonded bricks set in Portland cement with the splayed side outwards.

The advantages of the hollow brickwork and its various applications, especially when formed with a longitudinal bond, as adopted in the construction of these houses, are explained, in another printed paper, to be dryness and warmth, as well as economy of construction considerations which recommend them as a preventive of the evils which result from the absorption of moisture by common bricks and other porous materials.

For agricultural buildings, and for inclosure, park, or fence walls, they are particularly adapted, as well as for the ordinary dwellings of the labouring classes, for schools, and for houses generally of moderate height, and with the usual weight of roofs and floors, rendering internal battening unnecessary. Their strength may be adapted to circumstances, and where necessary be rendered equal to that of solid bricks.

When used for partitions, or for roof and floor arches, they are fireproof, deaden sound more effectually, and are considerably lighter than solid brickwork. As a lining to stone or flint walls, they supersede the necessity for battening, and the consequent risk of fire and dry rot is avoided. For cottage floors they are also well adapted.

The various forms of hollow bricks proposed, prior to that which has been patented by their inventor (Henry Roberts, Esq., F.S.A., Honorary Architect to the Society for Improving the Condition of the Labouring Classes), are all, particularly in reference to external walls, more or less liable to the objection, that they either will not properly bond together, and form a substantial wall, or else that the headers and the vertical joints afford a medium for the transmission of damp from the exterior to the interior.

"By the form adopted in the patent hollow brickwork, a perfect bond, running longitudinally through the centre of the wall, is secured; all headers and vertical joints passing through it are avoided; internal as well as external strength is obtained; and every facility is given for the fixing of floor-plates and other timbers; whilst, by the parallel longitudinal cavities, ample security for dryness is afforded, and great facility presented for ventilation, as well as for the conveyance of artificial heat, and for the transmission of bell-wires, pipes, &c."

His Royal Highness, who is President of the Society for Improving the Dwellings of the Working Classes, could have devised no more appropriate contribution to the extraneous utility of the Exhibition than this unpretending block of buildings. It needs but to show the working classes that they pay a higher rental for wretched hovels than they would be called upon to pay for such comfortable homes as these, and to prove to the capitalist that such buildings would yield a fair return for the money invested in them, to make the dwellings of the bulk of the people more worthy of the intelligence and good feeling of the age than they now are. Hitherto, although considerable attention has been directed to the subject in several of our great towns, the promoters have neither reconciled the people to their new abodes nor induced capitalists to embark largely in such undertakings. It is likely, however, that the subject will grow in favour as well as in importance.

THE FOOD OF MAN.

ANIMAL SUBSTANCES AND SUBSTANCES DERIVED FROM ANIMAL BODIES.

THE three great physical wants of man are Food, Clothing, and Habitation. We propose to consider what specimens of each are provided in the Great Exhibition. We begin with Food, as the most essential of the three. Considering that, for some thousand years, successive generations have had ample opportunity of testing the values of different kinds of food, it might be supposed, that, both in theory and practice, our knowledge of alimentary substances is more complete than that of any other subject. Yet the whole question, in a philosophic point of view, requires a high amount of knowledge, and is so recondite, that, even at the present time, it is very imperfectly understood. The researches of modern chemists and philosophers have clearly indicated that the operations of nature and the operations of man are conducted according to the same laws, and that man has only the power of discovering the principles of nature, and adapting them to his use. According to this view, organic beings, and even man himself, are mere elaborate contrivances, exhibiting the perfections of nature, but in no whit differing, in the laws under which they act, from the steam-engine, the battery, or the candle. From this cause, as organic beings are continually exhibiting force or capacity to change the arrangement of matter, it follows that, according to the universal law of nature, some other matter must be changed within their bodies, and hence, for that change, food is required. The human body falling within the class of warm-bodied animals, requires matter to be changed or enter into new attractions for the production of its natural warmth. It requires other matter to be changed for the capacity of exercising its muscular force; and neither the slightest action of the finger, nor even the winking of the eyelid, can be exercised without a corresponding demand for food. Lastly, although the production of heat and generation of force require the greatest amount of food, yet materials are required to build and support the frame of which the human body is made up. Not a thought can arise, nor a dreamy vision appear, nor a determination be arrived at, without a waste of material. In considering alimentary matter, we shall have to consider substances to maintain the warmth of the body, then other matter to maintain the muscular action, then that food which is required to excite the brain; and, lastly, other substances required to build up the structure which evinces these various properties.

Although it is manifest that we must take care to supply food adequate to these purposes, yet, even by the advances of modern chemistry, we are not able to point out precisely the manner in which every kind of food acts; and hence we must group a mass of foods together according to their composition and such effects which experience has taught us of their action.

But even in estimating the values of food by their action, instead of their composition, we are met by many difficulties; for food, to be useful, must be digested—must be assimilated or taken into the blood; and the same material which is easily digested and assimilated by one person, is absolutely poisonous to others; and there is even one case recorded of an individual in whom mutton, the most wholesome and lightest of meats, invariably, under every form of disguise, acted as a poison, and produced diarrhœa and dysentery, &c.

The changes which take place in all organic bodies, including man himself, take place in fluid mixture. The digested food is absorbed by vessels in a fluid state and taken into the blood. The changes of the body which produce the forces occur also in materials in a state of solution; and, lastly, the excretion of the changed matter is also effected through the kidneys, skin, alimentary canal, and lungs, from fluids.

The supply of water or diluent fluid is hence of great consequence; and for this reason we shall first consider the contrivances by which good wholesome water can be obtained for dietary purposes. The quality of water used for food is of the highest importance. At certain times, any contamination with putrid matter acts as most virulent poison, and at all times is liable to produce diarrhœa. During the prevalence of cholera, the ever-memorable mortality of Albion-place was produced by a drain having effected a communication with the well. At one house every individual perished. The inhabitants of the other houses supplied from the same tank were also great sufferers; and thus it is of great importance for every person to examine the character of the water which he employs.

Chemists have discovered, that, when water freezes, the ice, in the act of solidification, squeezes out all other foreign matters, so really nothing can be purer than the water from thawed ice. In London, where the water supplied is but indifferent, and the springs are contaminated with the oozings of animal matter, perhaps no better course can be adopted, by those who are in a position in life to afford it, than, to use that solid ice which has been recently imported, for not only might it be employed to cool wine, and keep the ordinary provisions, but when thawed, would form an excellent beverage. All artificial contrivances for freezing water are, doubtless, not so economical in their application as the simple mode of importing it from colder climates. At the present day, ice may be made in the red-hot crucible; but the best plan, which exists at the Crystal Palace, is that devised by Mr. Masters, and by which we have seen very beautiful blocks of ice prepared. Next to the purification of water by freezing, that by distillation demands attention. In London many persons have an apparatus which is attached to their kitchen-ranges, and which is capable of giving a considerable quantity of a bright fluid. In this case some empyremeutic oils are very apt to come over with the water, and give it an unpleasant taste.

As far as the mechanical impurities of water are concerned, they may be removed by filtration, and large quantities of dead and putrifying animal and vegetable bodies may be separated by this simple process. There can be no more simple mode of filtration than by using a piece of blotting-paper placed in a funnel; and, in fact, this mode is adopted by chemists, even for their more delicate operations. At the Exhibition many mechanical filters are shown, the majority of which are so contrived that a pressure assists the more rapid action of the water. The filters exhibited both by Mr. Stirling and Mr. Slack are said to have the power of filtering very large quantities of water.

In many cases filtration may be employed, either through animal charcoal, or that peat charcoal which has been recently found so effective to deodorise and absorb putrid material. This process is so effective, that Dr. Garrod has lately pointed out that the most deadly vegetable poison may be removed from water by animal charcoal.

In using water as a diluent some precautions must be taken, for, after great fatigue and exhaustion, a sudden draught of cold water is attended with serious consequences. Quintus Curtius records that Alexander the Great lost more men by this means than he had ever lost in any battle—an observation sufficient to warn those, who, tired out and exhausted by studying the objects exhibited, seek to recruit their exhausted powers by a draught from the filtered water of the Western Nave, which Mr. Forster prepares for their convenience.

The active substances which are used for food must consist of various elementary bodies: we principally use compounds of hydrogen, carbon, nitrogen, iron, potash, soda, and phosporus; as all of these elementary matters are the subject of changes, or enter into new attractions, which produce the forces which the human organization manifests, and may then be detected in the changed materials which are excreted.

Of all foods, perhaps, those derived from other animals deserve our first consideration. Every surgeon knows the beneficial influence of a generous diet in developing a highly organised individual. At the London dispensaries and workhouses the baneful influence of an imperfect diet is shown by a debilitated body and feeble mind; and the railway labourer is known to require a large amount of animal food to enable him to follow his avocation. We have ascertained from many calculations, that amongst the middle classes the value of the average amount of flesh meat eaten in London amounts to about sixpence per head *per diem*, where the party is left to follow his own inclinations, without restriction or guidance. Upon this average, the butcher's bill for ten persons amounts to about £90 a year. If we consider that this amount of flesh meat is the proper quantity, we perceive at once the importance of the subject under consideration, And though a small section of the population are *phytopophagi*, or vegetable-eaters, such individuals form the exception, and not the rule; and to preserve the integrity and enterprise of the Anglo-Saxon race, the first medical authorities declare that **a full meat diet must be used.**

In the South-west Gallery we have various samples of milk preserved for voyages. First of all, Moore's concentrated preserved milk comes before us, with a good appearance and excellent testimonials from various surgeons who have reported upon the subject to Sir W. Burnett. Again, we observe milk prepared by other processes. Mr. Fadeuilhe has exhibited consolidated milk, of a buttery appearance. Some preserved cream is also shown; and a single bottle of artificial milk, composed of yolk of egg and other materials, to partake as near as possible the properties of that fluid, is contributed by Mr. Presse. Milk being designed for the growth and nutrition of the infant, contains every material for that purpose, and hence is complete in itself, at any rate for the infant **state.**

Butter—the fatty portion of milk separated from it—is poorly represented at the Exhibition; nevertheless, the Americans have contributed tubs of this article of food. Butter, being composed only of hydrogen and carbon, is insufficient of itself to maintain the vital functions. The more important constituents of milk, which are separated from it and solidified into cheese, form a concentrated kind of food, which is so well adapted for keeping, so easy of transport, and yet withal so well calculated to indicate skill in its manufacture, that we might reasonably expect that the Crystal Palace would have been inundated with examples. Strange to say, we have not found a single cheese: the Americans have certainly not contributed one, and at present we have not seen a single specimen over the whole Building; from which we may infer, at any rate, that their number, if any, is exceedingly few.

Next to milk, blood must be regarded as a material having all the constituents requisite for food. It is but little used in any country; even the Levitical law so strictly forbids its use, that it orders it to be thrown upon the ground. This is carried out to the present day by those who hold the Jewish faith, and we can but think there is some medical reason for its not being used. To our mind, there is something revolting in the use of blood, and we should be very indisposed to try the blood bread of either the ox, cow, calf, lamb, or sheep, all of which are exhibited by Mr. Bocchiere. Amongst these articles of food, and placed in the section for food, are specimens of the preserved blood of healthy men and healthy women, for the excellence of which, as articles of diet, we must rely upon the statements of such cannibals as shall come over to witness the Exhibition. These last specimens we consider not only as a disgrace to the Building, but also a disgrace to the nineteenth century; for who shall say that the abstraction of the vital fluid from a healthy man or woman may not lead to disease or premature death? and we therefore trust that those who examine the section of human food may be spared the observance of such abominations, by the Executive removing them from their present situation. We have no experience of the use of blood to any extent as an article of food, and, therefore, would not recommend it even under the title of blood bon-bons, which are shown amongst these articles. Of course, in times of famine they **might possibly be of great assistance.**

From the consideration of the blood foods, we now pass to the more pleasing criticism of materials derived from the muscular fibre, or meat. In this department the Americans have shown large barrels of beef and pork prepared for ship purposes. The same country have shown specimens of hams and spiced beef; and our Irish neighbours, represented by Mr. Smith, have cured a whole pig, to exhibit their skill in this department of the preparation of food. A few other hams are shown, but in this matter the display is not good. In these cases salt is used in considerable excess, and it has become a matter of great importance to prepare meat so that it will keep without that material. Napoleon offered a large reward for any person who should provide this desideratum, which we believe was first discovered and carried out in France. Subsequently, Mr. Cooper, by dint of perseverance, also succeeded in finding out how to conduct the same operation, and his discovery was rewarded by a handsome fortune by the sale of the preserved meats for ship crews. Neither he nor his descendants have contributed specimens to the Exhibition, although Capt. Parry and Capt. Ross have spoken of them as being "in flavour and quality superior to every other." This important department of preparing provisions is still extremely well represented. Messrs. Gamble have sent, amongst a large number of tins, one canister of boiled mutton supplied to the Arctic expedition in 1824, and found by Sir James Ross in Prince Regent's Inlet, in 1849, in a perfect state of preservation. Mr. Leonard has shown beef said to keep good for any time; and a large quantity of foods from New South Wales are also exhibited. The principle of the preparation of the foods is the total exclusion of the air, and hence no putrefaction or other change occurs. It is impossible to tell to what extent this manufacture will eventually be carried, for in some parts of the world animals are alone kept for their skin or fat, the meaty, or nutritious part, being useless for any purpose. We are told that the large navy contracts for these preserved meats are taken by persons who procure the substances from foreign countries, and thus are enabled to supply them at a very moderate price. We see no reason why thousands of tons of such provisions should not be imported for the use of our industrial classes; and already their excellence is well known to the bachelor students of the inns of court, who keep a supply by them to use when required. This invention will doubtless, by degrees, amply develop itself. Of course, of the relative excellence of the things exhibited we have no means of judging from simply looking at the canisters. Mr. Whitney has shown beef preserved in a dry state, in fact as a powder, without salt: doubtless, if well prepared, it might become a good breakfast viand. A more important material is exhibited by Mr. Warriner and Soyer. It consists of the gravy of meat, and containing, probably, all its soluble matters, in a concentrated form. It is procured from Australia, where the carcases of sheep are positively worthless; and, if it be but good, it requires to be extensively known and universally kept, as it would form an excellent mode of making beef tea quickly. In the department of chemicals, Mr. Bullock has furnished a beautiful specimen of both kreatine and kreatinine, two alkaloids which Liebig has lately discovered in the flesh of animals. Perhaps we dare affirm that such specimens as these have never been produced before, and that they are the largest and finest examples that have ever been made, and, therefore, well deserving of careful study.

Madame St. Etienne has shown specimens of combinations of animal food with vegetable; so has also Mr. Gentile, apparently from the same works, at Totnes; and the Americans have sent over some meat biscuits. These latter we have had an opportunity of tasting, and they appear to be a very excellent compound of flour with the gravy of meat. The whole question of the preparation of food is but in its infancy—a mere germ, which, perhaps, in future years, will be fully developed.

The flesh of meat is particularly valuable as an alimentary matter, inasmuch as it supplies the substance which enables us to evince muscular action; and, though we shall hereafter point out that some vegetables contain a similar principle, yet animal food seems, upon the whole, with due deference to the vegetable feeders, to be the best substance which can be employed for that object.

Fish is somewhat less digestible than meat. Preserved salmon and various other fish are exhibited by the same persons who have shown the preserved meats. We need hardly remind our readers that we owe isinglass to fish. This material is well represented by Mr. Simpson, who has shown an excellent case of samples of this material. By the machines it is cut up into fine ribbons, such as those which are sold in the grocers' shops. Amongst the Indian curiosities a fish is shown which also yields a good isinglass; and the visitor may see a number of shark's fins which are also employed by the natives for a similar object. Of late years, gelatine has been procured not only from fish but also from animal substance, and various specimens of gelatine are shown. In purchasing this substance the public must rely upon the honesty of the vender; for, although some are as good or stronger than isinglass, others are almost as bad as the better sorts of carpenter's glue. Mr. Batty has shown some beautiful glasses of calves'-feet jelly, which will keep for any time, and yet preserve the flavours which have been imparted to them. In England fish does not form so essential an article of diet as formerly, when indentures of apprentices made in the towns on the borders of the Severn contained stipulations as to the number of days to which the eating of salmon was to be restricted, or in those ancient periods of history when Herodotus records that there were two or three races who lived exclusively on fish, and hence were called Icthyopophagi.

We very nearly passed some curious dried viands shown in the Swiss department. Diffrently dried trout, dried mutton chops, cutlets, &c., are exhibited; but, in common with every other department of the Exhibition, insufficient labels render an exact description very difficult. In the French department various articles preserved in tins are shown, but they do not deserve any special description.

The preparations of gelatine were formerly in high repute; but modern chemistry seems to indicate that they are serviceable for the tendons, fasciæ, and skin, and do not communicate to the system matter which supplies the changes which are required for muscular action; and certainly the practical surgeon knows that they are incomparably inferior to the soluble parts of muscular fibre, or flesh meat, for restoring strength and muscular energy.

Amongst preparations from fish, we must not omit the fish oils. These during the last ten years have come much into use as a medicine, though, perhaps, they must be regarded more in the light of a food than a remedial agent.

By the use of the fish oils, such as cod-liver oil, and the oils of a similar character, many examples of which may be observed in the South-west Gallery, the surgeon can fatten his patient at discretion, and can even, by their agency, remove the tubercular matter which, when deposited about the joints, constitutes scrofula—when deposited in the lungs, constitutes consumption. The judicious use of these oils, combined with other proper treatment, has so very much increased the duration of life in consumptive cases, that this malady is now, in the great majority of instances, cured, or stopped in its progress, many times before it fatally disorganises those organs so absolutely necessary to the right performance of the vital functions.

Amongst the articles of food, there are some furnished by the Chinese and Indians which we think are almost new to England—these are edible slugs. They have a most uninviting look, and are large, dried, black masses, which are eaten by Eastern nations; but with their excellence, flavour, and properties we are not acquainted. In mentioning these slugs, we cannot pass over the interest which the East India Company have taken to furnish the Exhibition with everything which is interesting; nor can we omit to mention the manner in which Professors Royle and Solly have conducted the arrangements and the selection of the goods, and who, from their high scientific standing and urbanity, have rendered the collection doubly valuable to those who study the objects exhibited. Amongst, also, the Chinese and Indian collections, we have such a display of edible birds' nests as we never saw before in this country, and in the Chinese department we strongly recommend our readers to observe the manner in which the nests are attached to the rocks. These nests are in two, if not in three varieties: the first being quite white, and somewhat resembling dried white of egg; the second being mixed with feathers. These are used for soup, and, according to the analysis published by modern chemists, they contain the highest amount of nutritive ingredients; in fact, containing a highly nitrogenised substance, they must be rendered as being one of the most concentrated kinds of food which can be employed. Amongst the luxuries which doubtless in time will be rendered much cheaper, we have preserved turtle, and we see no reason why the delicious calipash and calipee should not be abundantly prepared in regions where these creatures abound, sealed up in tins and sold at a price which should bring it within the means of every person. It is now largely imported, but nothing to the extent which it deserves.

Perhaps there is no more curious feature connected with animal food than the economy which is practised with such portions that are unfit for food. The very refuse in making candles fetches comparatively a high price in the shape of greaves, which are not exhibited; and, in fact, every portion is turned to some account. Some time ago, when experimenting on various foods, we called at a large retail shop, and offered to purchase all the fragments of cheese which necessarily occur in cutting it. The man asked what seemed to be a preposterous price; but, whilst debating the matter, a respectable-looking female, who overheard the conversation, turned round and exclaimed, "Ah, sir, you little know the value of those fragments; if you had a family like mine, you would be glad indeed to get pieces of such good cheese for supper!" Of good food every fragment is sold; and when animal matter is unfit for food, it passes into the manufacturer's hands to be changed to other substances, and the exhibitor in the North-west Gallery may observe some of these transformations in those gaudeous and stupendous crystals of the yellow and red prussiates of potash which have been shewn.

In taking a review of the animal substances used for the food of man, it will be seen, that, without there being anything positively new, yet there are many materials which are but very little known, not only to the public, but even to those who have deeply studied these subjects. The most important and suggestive examples are, doubtless, those in which meat is preserved to keep for any period, and is capable of being transported to any distance. The Legislator and the philanthropist must for ever regard the proper supply of the industrial classes with nutritious food as a matter of the utmost importance. Our workhouses are filled with inmates on account of bodily maladies produced by insufficient or improper food. Our hospitals and dispensaries are crowded with supplicants for aid from the same cause. For the full development of the intellectual faculties adequate nourishment is absolutely necessary; so, physically and morally, there is no subject of more importance at the Crystal Palace than those specimens of food which have been exhibited, which are likely to tend to the more extensive supply of animal food to the industrial classes.

ROME.—MOSAICS.

THE small space set apart for Rome, in the grand arena of the peaceful competition of all nations in the arts of civilisation, and the comparative paucity of the particles of display, contrast strongly with the mighty memories which the name of Rome is so calculated to inspire.

In that narrow compartment, or its contents, we see little to recal the limitless dominion and sculptural glories of the Imperial epoch, or the exuberant genius and grand results of the era of the Revival, with their enduring fame and wide-spread influence. In the Rome of the "Crystal Palace" we cannot have those monuments of art, those relics of antiquity, which throw such a charm around the "Eternal City" itself, and which, if they cannot conceal, at all events modify the criticism of that drooping of material civilisation which seems to manifest itself in the outward aspect of things there; and hence, in this "representative Rome," a feeling somewhat akin to disappointment arises, on first entering to view her array of objects of ornamental art. This sentiment, however, quickly yields to admiration on closer inspection. The want of that crowded profusion of display which more properous nations present, is compensated for by the beauty and unique character of the predominating features of the collection—the mosaics and the cameos.

Amongst the mosaics there is a table by the Cavaliere Barberi, on which the Bay of Naples, the Bay of Genoa, the Coliseum at Rome, St. Peter's, and other celebrated views, are represented with the truth of perspective, the rich tone of colour, the accuracy of delineation, and the perfect finish to be found only in the most exquisite miniature oil paintings; and the spectator may perhaps require to satisfy himself by microscopic examination that the work of art before him is not the production of pencil and pigments, but of some things widely different.

There is another mosaic to which we would also direct attention, if it is not invidious to particularise where all are excellent of their kind; but we mention it, partly because it is a copy of a *chef d'œuvre* of Italian art—Guercino's "John the Baptist"—and partly because it has been produced in the great parent school of Roman mosaic art, the studio of the Vatican. It is the work of Signor Raffaelle Castellini.

The mosaic-work of which these pictures are specimens is of comparatively modern invention, and is usually composed of *tesseræ* or tablets of opaque glass, of different colours. The mosaics of the ancients consisted of party-coloured marbles, stones, or tiles, and were applied generally to the formation of tesselated pavements; with the style and character of which, the ruins of Pompæii, and various relics of the Romans in Great Britain, France, and other countries of Europe, have made the moderns well acquainted. Those inlaid pavements usually consisted of compartments, containing some subject or device depicted in the centre, and encircled by borders, in red, black, and white. W[illegible] were also decorated in this way. And when, with the loss of power and wealth, luxury and the arts began to decline in Rome and in Italy, the Byzantines and people of the Lower Empire perpetuated the art, and by them the knowledge of it was re-conveyed to Italy in the middle ages. The Byzantines, adopting, in some degree, the polychromatic embellishments of the Greeks of an earlier period, introduced the use of blue, gold, and other brilliant colours; but there are not wanting authorities who maintain that the Italians never altogether lost the knowledge and practice of the art of mosaic decoration—that the Venetians especially, from a very early period, were well versed in it, and that the mosaics of the cathedral of St. Mark, at Venice, are the work of native and not of Byzantine artists. Whatever probability there may be in this theory, the direct evidence of history goes to show that the Florentine school of mosaic decoration was founded in the 13th century by pupils of Byzantine or Greek artists, who were brought into Italy to beautify the churches of her great cities.

The controversy is only glanced at to indicate the source whence the modern art, which is so vast an improvement on that of the mediæval epoch is derived.

The Moors, both of Spain and Africa, were also great adepts in mosaic decoration; but there was this characteristic difference between the Moorish and other kinds of mosaic, that in the designs of the former no human or animal form was represented, the law of the Khoran, adopted from the Bible—"thou shalt make to thyself no image"—being strictly observed to the letter; and the embellishment was confined to intricate geometrical patterns, displaying infinite variety of combination and configuration. Foliage and scroll-work were also not uncommon, amongst the patterns depicted.

This ancient mosaic, whether Byzantine, Italian, or Moorish, however never aimed at perfect pictorial effect, exhibiting no attempt at perspective, shading, colouring of many tints and tones, and the various other constituents of a picture, like the mosaics of modern times. They were rude designs of hard outline, with the junctions of the *tesserœ* conspicuous, as in any other marble pavement—a species of *parqueterie*, as it were, in marble.

MOSAIC PICTURES, such as those in the Exhibition, may be said to date their origin from a period little earlier than the year 1690, about which time copies of the paintings of the great Italian masters began to be made in mosaic. But there are other instances to show, that long prior to that period attempts at finished pictorial effect in mosaic were made, as may be seen in the mosaic over the Porta Santa, in the nave of St. Peter's, at Rome, which is a fac-simile, by Arpino, of an ancient mosaic picture of St. Peter holding the Bible and the keys of heaven in his hands. The *tesserœ* are large and rough, and the rudeness of the original work is intentionally preserved in the copy. It is a picture, however; and, as evidence that pictorial representations in mosaic of a character similar to these of modern times, were attempted in Italy long prior to the stimulus given to the art by the decoration of St. Peter's, where mosaic embellisment of the very highest order is so predominant, it is of great value; besides showing, by contrast, the great progress of improvement in the art from those early times to the present.

Mosaic pictures are usually fac-similes or exact copies of original paintings, in oil or fresco, and their highest excellence only aims at imitating, with the greatest truth and accuracy of the copyist's skill, the pictorial effects of the original. The result, therefore, would be very inadequate in proportion to the great cost and immense labour of the production, if it were not for its durable nature.

Once finished, no length of time, no excess of heat or damp, can injure or make the colours fade; the picture can only perish with the destruction of the mosaic structure. Hence, it is of the utmost value as a medium for preserving copies of the great *chefs d'œuvre* of genius, which, being depicted on the perishable materials of canvas, board, or plaister, may, in the lapse of a few centuries after the period of their production, be lost altogether to the world. How valuable, for instance, would be a first-rate copy in mosaic of the last supper of Leonardo da Vinci, representing not only the drawing, but the tone of colour, which cannot be conveyed by an engraving. It is in this sense that mosaics are truly valuable.

THE CONSTRUCTION OF MOSAIC PICTURES is a most elaborate and tedious operation, requiring the utmost nicety of work and painstaking skill. The *tesserœ* of which the work is composed are small squares or oblong pieces of opaque glass, of every variety of hue and of different tints and shades, amounting to between 20,000 and 30,000 in number. In the studio of the artist specimen pieces of all those various colours and tints are placed under a full light in frames, assorted and arranged on the most gradually ascending scale of shade, from the deepest to the lightest, each having a particular number attached to it, which corresponds with the number of a drawer in the repositories in which the mosaic material is kept. The artist, by this simple arrangement, can at once procure the minutest variety of tint of any colour which he may require. Having possessed himself of the colours which he may require, his *modus operandi* is as follows:—A mosaic table is to be formed. He takes a slab of cast-iron, the surface of which is divided into square sections by little metal partitions, for the purpose of holding securely the cement in which the mosaic is embedded. This cement is of a most adhesive character, and is composed of lime and a concrete volcanic stone, reduced to powder, which has the property of attaining the very utmost hardness and durability when in contact with water, and hence is especially fitted to be an ingredient in a cement required to be of a very lasting character. This stone is usually known in Italy by the name of *peperino*, from *pepe* (pepper), the grey granulated colour of which it very much resembles in appearance. This powdered *peperino* and lime, when combined with linseed oil, and the compound made to a proper consistence, constitutes a cement having all the qualities needed for mosaic work. The artist, with the painting which is to be copied placed before him in a suitable light, spreads the cement over a small portion of the iron slab in sufficient thickness to cover the square compartments on its surface by an inch or two. He then inserts the mosaic *tesserœ* or glass cubes in the cement, having first, by means of a foot-lathe, with wheels of different kinds attached, shaped each piece to the exact form requisite for the delineation of the particular fraction of the original painting which he is at the moment copying. The mosaic picture is thus wrought piecemeal as it were, with the most patient and elaborate skill, each different gradation of tint being effected by a separate piece of the mosaic material. The surface, when completed, presents a dull, rough, and jagged appearance very unlike that which the final operation of polishing communicates to it. This polishing, which brings out the beauty of the work in such perfection, is effected in the same ordinary manner in which marble slabs are polished, viz. by the friction of a heavy stone moved backwards and forwards either by the hand or by machinery.

In the formation of mosaics of a large size, such as those magnificent specimens to be seen in St. Peter's, at Rome, it is not usual to employ a cast-iron plate as the sub-structure of the work. A large slab of *peperino* is found to answer all the purposes required, the natural inequalities and roughness of the surface presenting an effective grasp for the cement.

Although the *Studio de Mosaici* in the Vatican, which is maintained at great expense by the Papal Government, chiefly for the purpose of decorating churches with mosaic copies of the masterpieces of Italian art, must be regarded as the great parent school, which has developed to its present state of perfection the art and mystery of mosaic painting, there are, nevertheless, private establishments which produce works of great beauty for the decoration of mansions and palatial residences, and of these the mosaics in the Exhibition are beautiful specimens. Besides those already referred to, there are two handsome tables by Signor Boschetti, and others by Luigi and Domenico Moglia, presenting views of the Roman Forum, the Colosseum, the temples of Pæstum, &c., which will well repay close inspection, and are very admirable works. This, the table above referred to, by the Chevalier Barberi—a name of European celebrity—is a most exquisite specimen, and well worthy of his fame, it is very much to be regretted that he has not been allowed to exhibit to the admiring eyes of all nations in the Crystal Palace a *chef d'œuvre* which he has just completed for the Emperor of Russia, and which he is obliged to transmit immediately to St. Petersburg; viz. a large octagonal pavement, containing twenty-eight figures, the central piece being a colossal head of Medusa, and the whole being surrounded by a border of fruits and flowers. The design is copied on a reduced scale from an ancient pavement in one of the rooms of the Vatican museum; but it would be impossible for any one thing to surpass another to a greater degree than that to which Barberi's copy excels the original in drawing, colouring, and style of execution generally. He was aided in his work by his Russian pupils, who have been placed in his studio by the Czar for the purpose of learning the art of mosaic decoration, with a view to founding a school of mosaic at St. Petersburg.

The improvements in the mechanical parts of the operation of mosaic painting which have been introduced by Barberi are so great, that a work which would require upwards of four years for its completion in the Vatican studio, is executed by him in less than a year and a half. A remarkable instance of this celerity of operation was recently manifested at his studio, where a copy in mosaic of the St. Nicholas in the church of St. Peter, which had been ordered by the Emperor of Russia, was made in something less than two years, although a similar work at the Vatican occupied from four to five years

The pavement above referred to took three years and a half in its execution. But these are works on a grand scale, to which the mosaics in the Exhibition only bear the relation of miniatures to full-length paintings. The latter, however, are well calculated to impress on a mind hitherto unacquainted with mosaic works, a correct idea of this peculiar and beautiful branch of art.

BELGIUM.

THE produce of the little constitutional kingdom of Belgium lies next to France, occupying the bays on both sides, and a slice of the northern galleries of the Eastern Nave. It includes specimens of almost every branch of industrial occupation: agriculture, commerce, manufactures, mining, and fine arts, in many subdivisions, are all represented in a very creditable manner. Belgium, under different names, has contrived to maintain a manufacturing and agricultural position for more than four hundred years, in spite of wars of which it has been the battle-field, of revolutions, of parcellings of territory, and changes of government, until, twenty-one years ago, at a fearful sacrifice of material wealth, it settled down as an independent state under a limited Monarchy.

Even in the time of the Romans, the Flemish cities were celebrated for their woollen cloths. In the time of Charlemagne, Liege largely manufactured both woollens and linens; therefore, the flax cultivation, which forms so important a part of Belgian agriculture, must have been extensively carried on at that period. In the latter part of the fifteenth century, Brussels, Antwerp, Louvain, and Ghent employed an immense population in woollen manufactures: Ghent alone had upwards of thirty thousand looms; the weavers of that city once mustered 16,000 men in arms under the banners of their trades. Thread lace originated in Flanders, at Mechlin and Brussels, where it is still an important branch of commerce, and the capture of Antwerp by the Duke of Parma, in 1785, ruined great silk manufactures, although Antwerp black silk is still famous, and drove a number of artisans to England, by whom our own manufactures were greatly improved. Flanders suffered grievously under the persecutions of its Spanish masters; under the wars of Marlborough and Louis XIV. and XV.; the wars of the French Revolution, which ended in incorporating what is now called Belgium with France; the wars of Napoleon, which ended in taking it from France to add to Holland; and finally by revolution, which deprived the Belgian manufacturers of a large share of the commerce and consumption of Holland. But still the people struggled on with a patience and industry deserving of success. Belgium was thus thrown upon its own resources, as a manufacturing country, with only forty miles of coast and two indifferent ports. Great efforts were made to open up foreign trade; consuls were appointed all over the world, rather as commercial travellers to create, than as diplomatic agents to protect trade already existing; and public money was largely and not very successfully invested in propping up establishments in which the King of Holland had taken a large pecuniary interest. But the wisest and most successful step of all, was the construction, long before any other Continental state had ventured upon such a novelty, of a complete network of railways. These railways, among more solid advantages, made Belgium the high-road to the Rhine and Germany, and attracted and detained a share of the travellers to the pretty miniature capital of Brussels, who had formerly flocked to Paris alone. These railways, no doubt, contributed powerfully to raise Belgium from the state of depression into which its manufacturing interests fell after the separation from Holland, and, by cheapening the cost of raw and manufactured produce, to render possible the varied exhibition we have had the pleasure of examining.

The arrangement which renders France and Belgium next-door neighbours here, as they are when at home, suggests a question which the Ministers of Commerce would be rather puzzled, we think, to answer

Between France and Belgium there is a war of custom houses and an interchange of smugglers, chiefly in the shape of large dogs, which carry Belgian tobacco and lace into France, and bring back French silk or some such article. Every French *douanier* is provided with a thick volume of instructions on the art of stopping, seizing, detecting, poisoning, and shooting Belgian smuggler dogs. Nevertheless, day and night, especially at night, large packs of contraband hounds, heavily laden, rush past the bewildered officers.

Now, when Belgium was part of the French empire, its manufactures, its coal, its cattle, its corn were all freely admitted into France; nothing was taxed, nothing was prohibited: since the disjunction everything that is not taxed is prohibited, and yet the line of division between the two countries is purely imaginary, and the people who, under Napoleon, were free to interchange their goods, must have had just the same wants the day after the custom-house division made it unlawful as the day before. Why, then, was interchange useful before Napoleon's last campaign, and baneful after his dethronement?

But to begin our walk. We will first enter the southern bay. There we find a varied display of textiles of every kind, which seem very little visited by the curious crowd, although, no doubt, our manufacturers in the same line will give them a close examination. There we find the cheap mixed fabrics of woollen and cotton, the fine kerseymeres in which the Belgians can undersell our Gloucestershire and West of England men, also capital stout canvass and damask linen from districts of Flanders which grew flax and weaved linen long before Belfast was founded; printed silk handkerchiefs in praise of which nothing can be said, and woollen shawls of very dull, dowdy patterns. In this department almost every kind of woollen and mixed woollen is to be found, including a lot of coloured flannels. The outside of the bay facing the Nave is adorned by a mirror in gilt frame of allegorical figures very beautifully carved. The sides of the next section by the stairs leading to the gallery are hung with carpets from the Royal Belgian manufactory of Tournai, which, like the French Gobelins and Beauvois manufactories, is carried on with Government money, as a school for the purpose of improving native taste. Proceeding onward towards a formidable stand of arms, we pass between a collection of saddlery on one side and boots and shoes on the other. The saddlery is respectable, but will not stand comparison for a moment with either English or Irish work in finish. The same may be said of the harness. The buckles are very clumsy. The patent leather boots are as good as French, and probably cheaper; among them a pair of capital lace shooting boots in brown leather are excellent; and a pair of long boots in brown Russia leather, the sides of which come off like gaiters, should be looked at by those who shoot in woodland and thick hedge countries. A set of dark brown seal skin furs deserve notice, from the perfect manner in which the skins have been prepared, soft and without any disagreeable smell.

Liège sends a most formidable collection of arms, of every kind and calibre. Liège is the only place which can compete with Birmingham in supplying cheap guns. The specimens sent include the most expensive and the commonest. The bright-barrelled musket and bayonet of the pattern made for Schleswig-Holstein, and the muskets with sword-bayonet affixed, which are used in almost every corps of the Belgian army and in our Engineer corps. To pass any opinion on such articles from their outsides, would be impossible; we can only say that some stocks are beautifully carved, some barrels beautifully chased and damascened, and many finished as well, externally, as our gunsmiths usually show. The proper plan would be, to have a grand field day, to try the fire-arms of all nations. There is a chess tournament, open to all the world, going on; why not have a series of sweepstakes—one for fowling-pieces, one for rifles, one for muskets, and one for pistols, with rests and without rests, by all the exhibitors of fire-arms? No doubt, a speculator like the host of the Red House would be willing to pay all expenses, and a very useful and interesting series of matches would be the result.

We observe, in one case in this division, a pair of rifles made after the Swiss fashion, over which a paper is affixed stating that one of the rifles, "fired from a rest, at a mark 4 inches in diameter, at a distance of 110 yards, made ninety-five hits out of one hundred." We should like to see this done again, and to know whether more than one man could do the same feat in one day.

Behind the arms, next to the external wall of the Palace, is a very miscellaneous agricultural and mineral collection of specimens of flour, millstones, bristles, bricks, tobacco, flax and hemp, and the dried plants in seed, with all sorts of cereal grain, hops and malt, coal, iron, cannon, and agricultural implements, the fleeces of merinoes and cocoons of silk-worms—giving a great idea of Belgian industry and versatility.

The coal reminds us of the difference between the tenure of English and of French and Belgian coal-mines. In England, if you find a coal-mine on your freehold, it is yours; in the other two countries, it is the property of the state: and in France, unless you happen to be a supporter of the Government for the time being, you have no chance of obtaining leave to work it; when leave is granted, it is subject to a royalty to the Government.

In Belgium, the Government compels coal-owners to construct ladders by stages for the miners, men and *women*, to ascend and descend, instead of using a perpendicular shaft, with an arrangement of chains and pullies. The Belgian Government will not permit the lives of its subjects to be risked on the soundness of a rope or chain. The result is, that Belgian miners, carrying coal on their backs up a thousand steps of a set of ladders or stages, are never killed, though strains and ruptures are every-day occurrences. We prefer our system, with a little more care.

Crossing the Grand Avenue, we find the northern Belgian bay, flanked by two carriages, which do very great credit to the coachmaker from Brussels. It is well known that the aversion with which our aristocracy looked upon the project of an exhibition, was communicated to the coachmakers, and the first in that line have scarcely sent anything; they are reaping bitter fruits of their folly now. We do not hesitate to say, that the Belgian phaëton in cane-painted morone is one of the prettiest and best finished in the Palace. The French exhibit a few carriages, close at hand, which are all very bad in form and finish.

Furniture follows the carriages. We can especially call attention to a sofa and chairs, gracefully carved in walnut, and covered with green velvet. In the opposite bay are two cabinets in oak, of great merit, especially one of a grave, ecclesiastical character, ornamented with figures of angels. Some pianoes and boxes made from Spa wood, which has acquired a slaty feruginous colour from the Spa waters, would form a good contrast with furniture of birdseye maple or zebra wood. Near this is an extremely ingenious dumbwaiter, like a large paddle-wheel, the shelves of which always keep on a level. It would be very convenient in a library, for a student who had a good many large books of reference in use at the same time. The principle would be available on board ship, for glass or crockery ware, fixed by the feet to the shelves. On side of the room are a few philosophical instruments, and a toy showing that "you must *not* always believe what you see."

The Belgian machinery and agricultural implements are not to be treated lightly; therefore we shall, for the present, pass them by, observing, that the great establishment at Seraing for the manufacture of steam-engines and all kinds of machinery, which was founded by Cockerell, under the patronage of Napoleon, and afterwards supported with capital by the father of the late King of Holland, has sent several specimens of heavy work of a creditable character. The pace approved on the Belgian railroads, viz. fifteen miles an hour and many stoppages, does not demand the flying engines we impatient Englishmen require. M. Presmany, writing his opinion of England in the Paris paper *La Patrie* says, "An Englisman never saunters, but always rushes forward like a mad dog." If he had said the same of our locomotives, he would not have been far out.

Before ascending to the galleries we would request our lady friends fond of gardening or poultry keeping, or, like good wives, in the habit of accompanying their husbands through the stables and byres to look at the live stock, to examine a collection of wooden shoes of very pretty shapes, some provided with leather fastenings, which seem to us better than the best kind of clogs for country use in muddy weather.

Near these shoes are ponderous spurs, of highly ornamental shape, with rowels the size of a crown piece, bridles and straps to match, manufactured for the Mexican market.

We will now walk up stairs, where we are sure to find ourselves in a dense crowd, and look down on a sea of heads running in a very strong tide, up and down both sides of the Grand Avenue.

The leading articles, as drapers say, are three figures of life size, sent by a Belgian embroiderer of ecclesiastical robes, which he dresses in costumes much finer than anything to be seen at Madame Tussaud's. He began with the Archbishop of Paris, Affré, who was killed in the last revolution at the barricades, a St. Carlo Borromeo, an Italian saint and archbishop, and our English Thomas à Becket. Since the opening, Fénélon, whose "Telemachus" has proved the penance of so many English school-boys, and rendered so many school-girls as inconsolable as Calypso, has taken the place of M. Affré, and the Italian priest has been superseded by another dignitary, but Thomas à Becket remains; although, for some reason or other, all three of these lay figures have been provided

THE BELGIAN COURT.

with white gloves, instead of the purple gloves of the bishop and the bright scarlet of the Cardinal. While examining the embroidery of these robes, which the maker warrants to wear a hundred years and *then clean*, we found ourselves side by side with two gentlemen actually wearing the one *scarlet*, and the other *purple gloves*—such are the strange coincidences of the Exhibition! It was Cardinal Wiseman and one of his Bishops examining the costume of Thomas à Becket.

In the same galleries will be found a case of medals, cameos, bronzes, a shield, dagger, and other ornaments richly chased in iron, all displaying very considerable taste and executive skill, and maintaining the character in the fine arts which Belgium has deserved by the statuary exhibited, and already noticed in the ILLUSTRATED LONDON NEWS.

To own the truth, neither statuary, nor lay figures of archbishops, nor the large display of Roman Catholic works, nor anything connected with art, science, or literature, creates half the sensation among the ladies, that is excited by the specimens of lace from Brussels, Mechlin, and the other districts where this fragile manufacture has for centuries been carried on. Exclamations of rapture and envy burst forth as female faces squeeze in front of robes, flounces, veils, collars, parasols, and every conceivable article of dress fashioned in thread lace of the most elegant patterns, and hung upon wax figures of fashionable air.

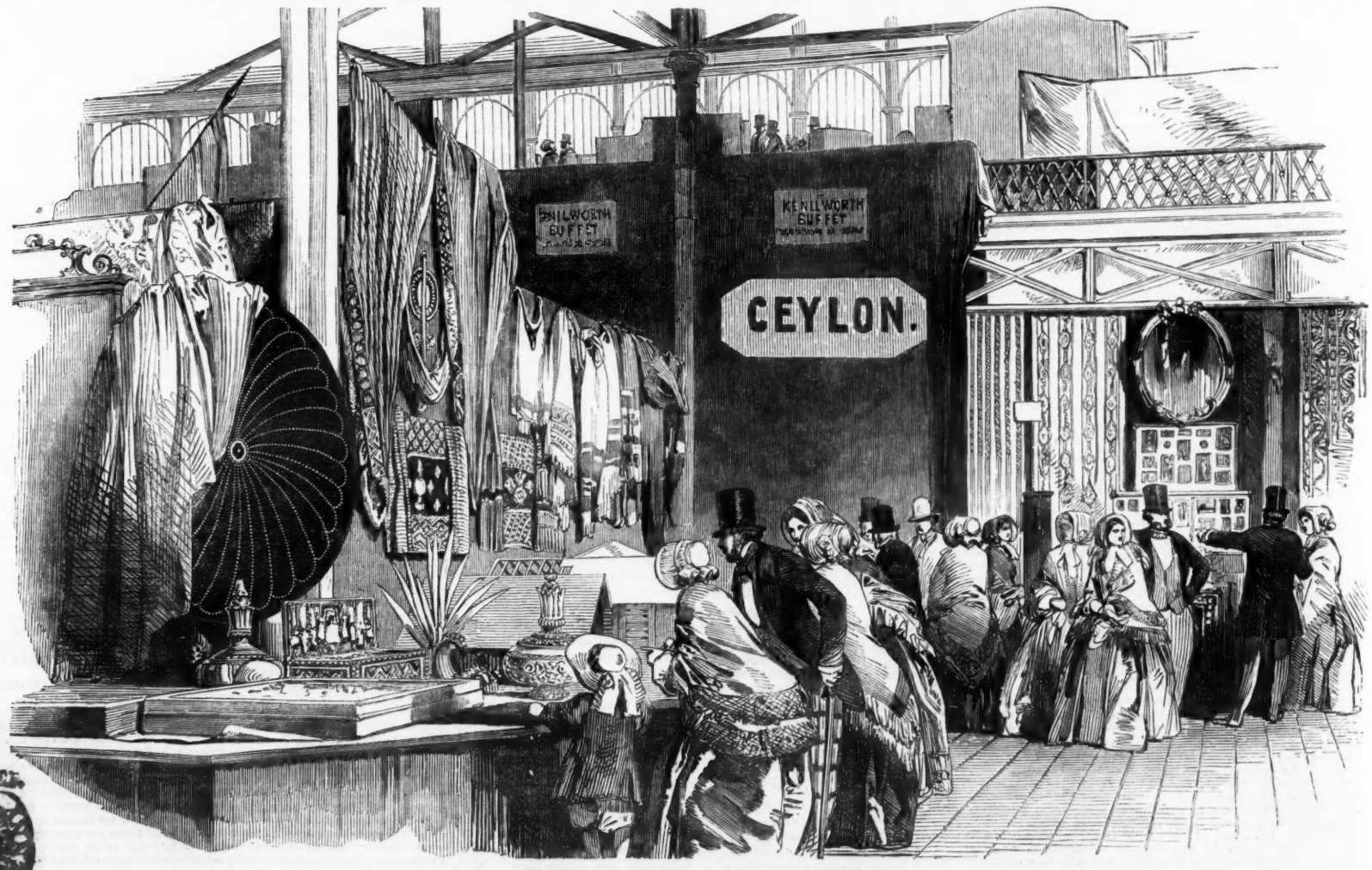
We will conclude by observing, that in the Belgian, as in most, if not all, other parts of the Exhibition, the catalogue is of no more use than so much cheesemonger's paper.

THE CEYLON COURT.

THE little Ceylon Court possesses few attractions to compete with those put forth by Hindostan; yet its contents are not without interest, whilst some of them show advances in decorative art highly creditable to the Cingalese. Of mineral productions we find a variety of specimens, in iron, tin, manganese, and plumbago; the ruby, also, with the beautiful earthy substances, zivern, chryso-beryl, and tourmaline. Of vegetable productions we find numerous samples—coffee, cinnamon, tobacco, &c., accompanied by a model of a coffee store and drying plantation. Of other natural products exhibited, we may mention numerous gums and oils, specimens of ivory, buffalo and deer horns, tortoiseshell, and a great variety of woods.

In manufactured products and agricultural tools, there are gold and silver ornaments, lace, cotton fabrics, and cordage, all of which are interesting and creditable in their way. There are also some models of carriages, palanquins, and temples, well worthy of inspection. But the chief art in which the Cingalese appear to excel is that of inlaying in wood, of which there are here several samples: one, an ebony table, inlaid with fifty different Cingalese woods, &c., and exhibited by Mr. J Kitchin, appears in our Illustration.

The Ceylon Court is situated a little west of the Indian Court (northern), and immediately between the compartments allotted to Malta Jersey, and Guernsey.



THE CEYLON COURT.—FROM A PHOTOGRAPH, BY CLAUDET

NEWSPAPER
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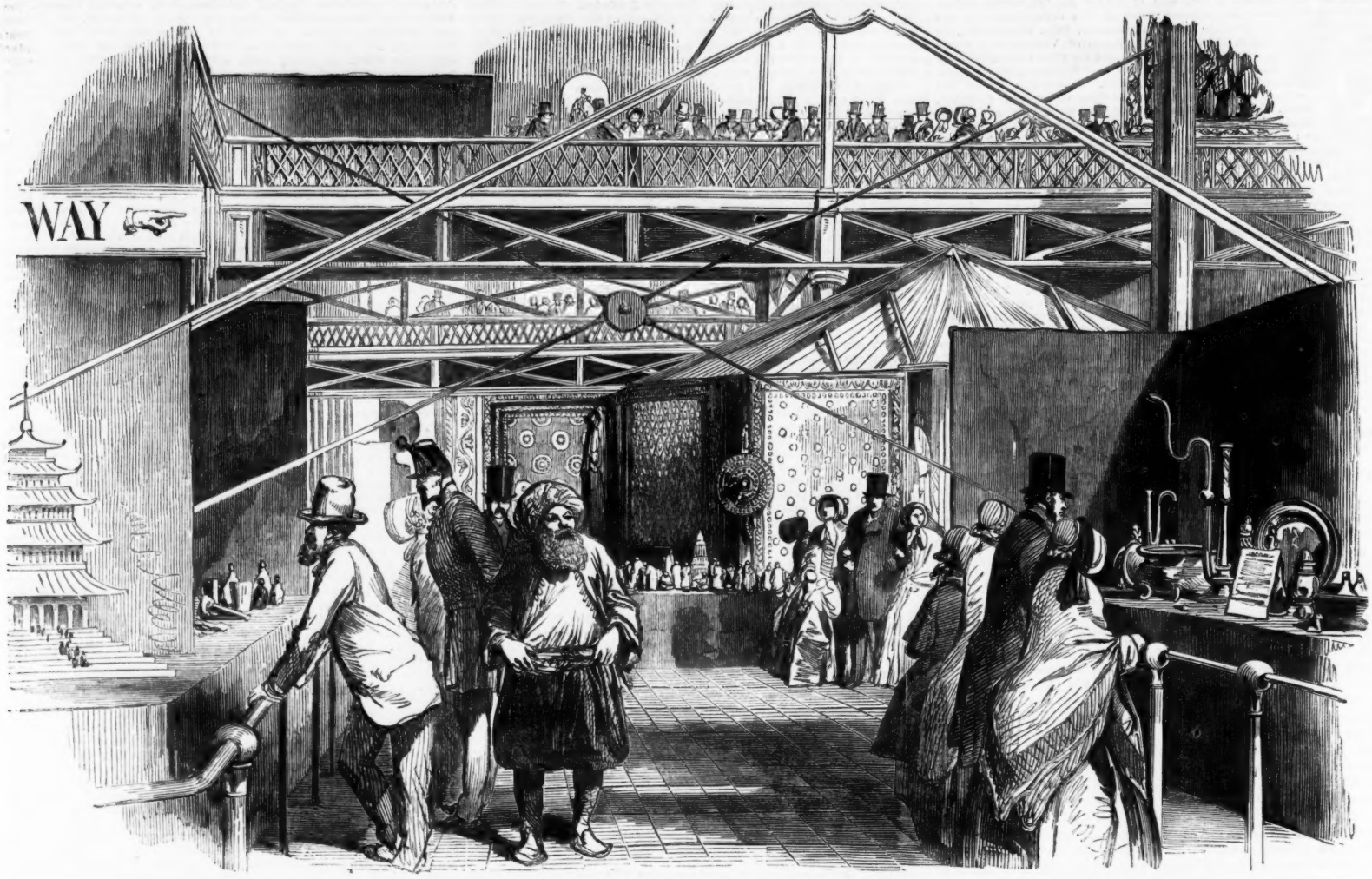


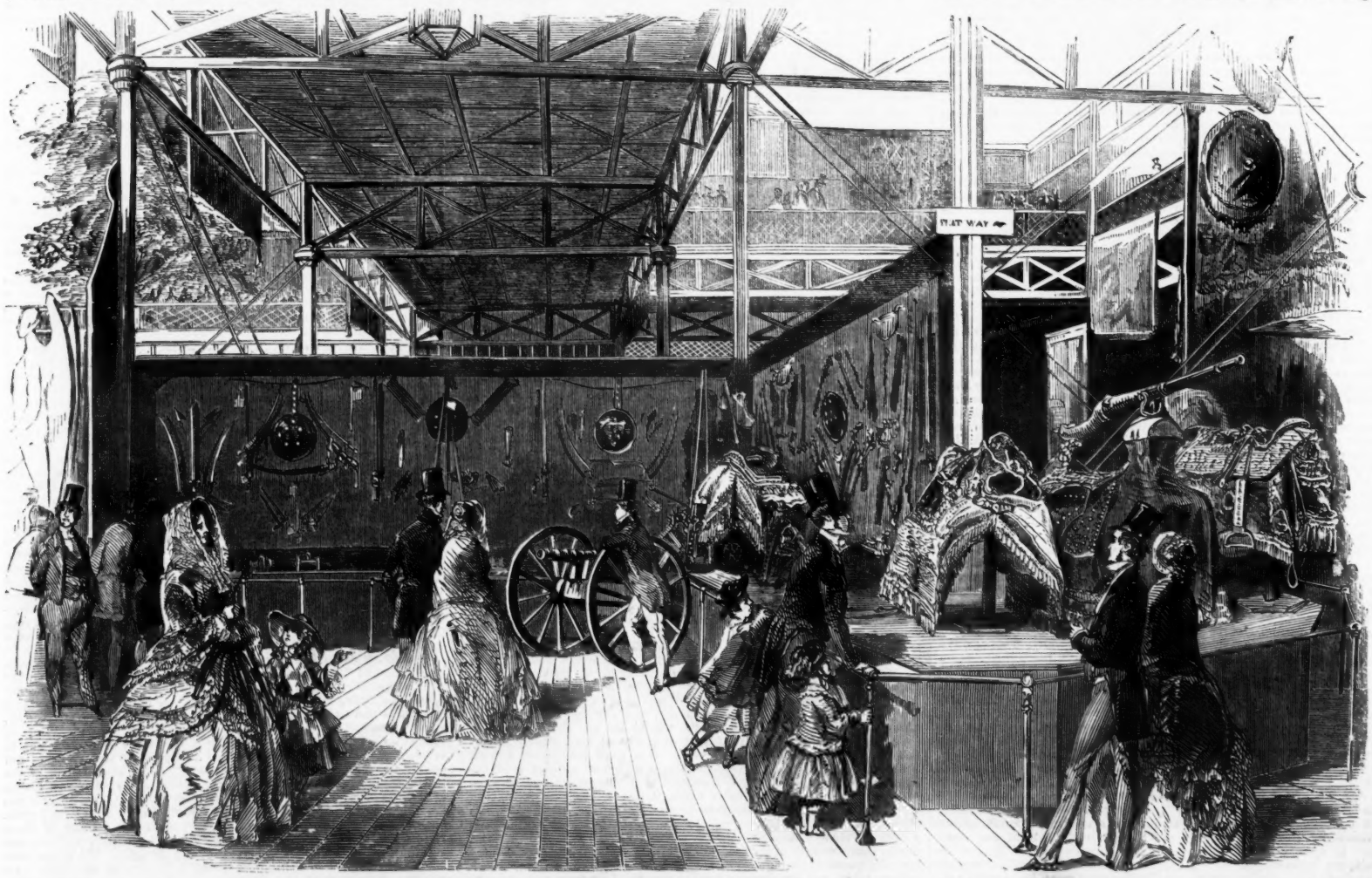
THE EAST INDIAN COURT.—NORTH SIDE.—FROM A PHOTOGRAPH, BY CLAUDET.

THE EAST INDIAN COURTS.

THE East Indian Courts are situated on either side of the Western Nave, at its point of junction with the Transept, on one side of which, also, they occupy a considerable space. Their contents are rich and varied, and are interesting in the highest degree, as illustrative of the natural resources of a large territory—resources which, except for articles of show and luxury, have as yet experienced a very slight degree of development. The first compartment, and great part of the second on the south side, are filled with weapons of war, suits of armour, &c., of native make, tastefully arranged; amongst which, a brass gun, with a tiger's mouth, is a formidable and conspicuous object. Amongst these more barbarous appliances of assault and defence, are models of European guns, &c., at present in use, so that every stage of progress in the arts of war is faithfully represented. In the next compartment we come to some products in muslins, richly embroidered, a very old established branch of manufacture with the nations of the East, and in which, in many respects, they are still unrivalled. After casually inspecting these elegant productions, we enter the next compartment, one side of which presents a show of musical instruments, both stringed and wind, from Bengal, singular and picturesque in appearance, and highly interesting in connexion with the history of that delightful and universally-loved art. Facing these are a variety of models of the mills, gins, and other works used in the preparation and manufacture of the cotton plant—primitive contrivances of the rudest class, to which, we are sorry to believe, few or no additions or improvements have been made for centuries, showing how much remains yet to be done, when the light of civilisation shall have made its genial influence felt by our Oriental brethren. Upon the same benches are also displayed models of equally primitive and clumsy machinery for the grinding of sugar, the distilling of spirits, and other like purposes. A curious contrivance for casting coin, and used in the Madras mint, will also attract attention. It consists of a battery of ten feeding tubes, or hoppers, which are acted upon by handles, and the means of operation is very fully described in a pamphlet which accompanies the model.

Before proceeding to enter the Northern Court, we must pause to gaze in wonder, with the rest, upon the gorgeous collections of jewellery and rich embroidery, and other articles of great value, exhibited by the East India Company, in two glass cases especially erected for their reception, Amongst these also are some very curious carvings in pith; and upon the adjacent counter are some equally remarkable carvings, chiefly models, in various stones. The utensils in brass, copper, and pottery, of which there is a large collection, are highly curious, especially some which are used by the Hindoos in the worship and service of their idols. A remarkable and gratifying instance of the confiding spirit of this humble and primitive race, is found in the exhibition of the self-feeding peacock lamp, in brass, used in the Deorah, or temple of the iron-dealers of the Surragee persuasion, by whom it is held sacred, but who readily contributed it for exhibition in the Crystal Palace, as soon as it was made known of the intended industrial congress. The principle of this lamp is simple enough, the oil being supplied from the breasts of the peacocks into the lamp-burners whenever it is required.

The utensils in iron, inlaid with silver, amongst which is a large



THE EAST INDIAN COURT.—SOUTH SIDE.—FROM A PHOTOGRAPH, BY CLAUDET.

hookah, are very elegant in form and of highly finished workmanship. Proceeding to the rear, or extreme north of this department, we are at first struck with a great variety of ornaments, fruit, flowers, &c., in wax. Two ivory chairs, inlaid, from the Rajah of Vizianagram, stand conspicuously here. At this point and around are glass cases filled with gems of agate and jasper, both in slabs and fashioned into a great variety of objects of adornment and utility. In other parts of this room are some very admirable specimens of carved furniture, in black wood, from Bombay; and of carved boxes and ornaments in sandal-wood, from Mangalore; carvings in ivory, from Morstedabad; samples of embossed paper and illuminated writings, forwarded by the King of Oude; and a variety of articles of eminent and unique beauty, in which the minute and patient industry of the native Hindoo is pleasingly illustrated. Against the north wall of the inner room are two chairs and a couch, of Rajpootana white marble, the backs of which are remarkably fine specimens of open carving. In the centre is a Royal state bedstead from Benares, the curtains of which are of purple muslin, richly embroidered.

One of the most striking features in the Indian collection is a room furnished in the style of an Indian palace, in which all that romance has said of Oriental luxury and gorgeous display is more than realised. But, as this will form the subject of a distinct illustration, we shall not enter upon a description of it at present. Around it, externally, are a large collection of figures, in clay, illustrating the various trades and castes of the Hindoos. The display of rich shawls, carpets, matting, and mixed fabrics, in various portions of this compartment, cannot fail of attracting observation, whilst they will repay the trouble of careful examination. Nor must the various objects of natural produce, vegetable, animal, and mineral, be overlooked; for, though less striking, upon picturesque grounds, than many we have more particularly referred to in the above observations, they are perhaps of even higher interest to the future destinies of our vast Eastern empire.

COSTUME AS PORTRAYED AT THE EXHIBITION.

(FIRST NOTICE.)

THE second of man's essential wants is clothing. Having in a previous article touched upon his food in one of its most important departments, we proceed to consider the Exhibition under its second aspect. Suppose a crowd could be collected, every man and every woman a specimen of some distinct national costume worn by some distinct country or race, or by the same country or race at two distinct periods, how vast would be the multitude, and what a perfect confusion—not of tongues, but of tailoring—would they exhibit! Suppose, further, we indulge a philosopher, hitherto unacquainted with our race, with a passing glimpse of the motley multitude, would he, by any possibility, arrive at the conclusion that we were all creatures of the same species? Would he rank the robed Oriental with the jacketed sailor, the Indian in his war-paint with the powdered Marquis of the old *régime*, the Chinaman in his silk with the crusader in his steel, the ancient Briton in his woad, with the modern Briton in his trousers? Surely he would see less difference between a lion and a tiger (veritable *feræ naturæ*), than between a lion with lavender kids in a cab, and a tiger with tops and buckskins swinging behind it. Would the bird of paradise seem less akin to the raven, than a gay chevalier of the *moyen age* and his black-coated and black-hatted predecessor of the present day? or would an armadillo, with its scales, or a porcupine with its quills, differ, in any more decided respect, from a rabbit or a lamb, than an old feudal baron, all mail, chain, or plate, in complete panoply of iron,

> Garving the meal with gloves of steel,
> And drinking the wine through the helmet barred.

Would the brute animals in question appear to differ more from each other than the human animal described from a peaceable quaker of the present day wending his way from Clapham-rise to a meeting of the Peace Society?

That the Exhibition would have assembled so extraordinary a museum, was not to have been expected. All the costumes in the world would have filled it fuller than a thriving tailor's shop. We could not have turned, for gabardines, doublets, cloaks, kilts, shirts of mail, bot-coseys, and wrap-rascals, not forgetting the more outlandish articles from more outlandish parts and more renowned times. Coats of many colours from Egypt; the regal robes which shone in Nineveh; skins from the north and cottons from the south; buffalo robes from the prairies, and fleeces from the steppes; the bernous of the East, and the paletots of the West; the toga of old Rome, and the trousers of Old England—such a thorough exhibition of "Ole clo'!" we could not look to have: but, for all that, the articles of foreign costume actually exhibited in Hyde Park, although belonging to a rather confined range of the world, are not so scanty as not to be able to afford some curious hints and useful information. The most characteristic of these specimens come from the East. This was to be expected. In the semi-civilization of all Oriental countries, from the Levant to the Chinese seas, dress is a matter of far more importance than among us civilised Great Westerns. We may make differences of social rank—we may say, such a man is a Duke, and such a man a Baronet, and so far different from plain Jones and Smith, with no handles to their names. Not so the Turk, or the Persian, or the Chinaman; their Dukes and their Baronets are labelled with the visual sign of their position and their importance; they carry their rank on their backs, and their honours on their sleeves—cloth of gold and embroidery clearly marking out the bashaw or the nabob from the fellah, who hoists a single stripe of cloth round his loins, or the black starveling who is not even gifted with the means of induing that scanty costume. It is to the East, therefore, that we turn instinctively for the materials for the few notes on costume which follow. Our European differences of dress are very minor; coats, waistcoats, and pantaloons are, indeed, endowed with subtle differences of form and cut, but in essentials the garments are the same. The St. Petersburg shopkeeper does not greatly differ from the London shopkeeper. Broadway turns out clumsy imitations of the Boulevards, and the citizen of Copenhagen would not be greatly stared at in the streets of Palermo. No, let us go to the East for novelty—that is, novelty to us—for there are no revolving fashions in the stagnant clime of the palm-tree and the date, and the Bedouin of the desert wears the self-same robe now-a-days as his father in the first generations of Ishmael.

And first let us look to the most worthy part—the head. The turban is the ancient Eastern costume for the head, and we have very little opinion of the sense or the taste of the revolution which is now, in Turkey, Persia, and Arabia, introducing the fez in lieu of the orthodox swathes of the good old turban. The fez, in fact, is as great a monstrosity as the modern hat. It consists, as most readers will be aware, simply of a skull-cap, of greater or less height, fitting close to the head, and decorated with an ugly tassel like the extremity of a bell-pull. The fez gives neither shelter to the head from the sun, nor shade to the face, and it is as ungraceful as a red nightcap worn in the daytime can possibly be. The article is curious in its construction. Most of those shown in the Exhibition are woven in a single piece: some are richly lined; some mere cloth shells. There is, we believe, a great fez factory at Constantinople, where an enormous number are daily turned out; but we believe that the article is also manufactured in different parts of Europe. The Sultan has invested his troops with the abomination in question; and all the "fast" young Mussulmans are assuming the "new style," to the great scandal of the orthodox old slow-coaches, who stick fast to the turban, and measure their patriotism and their sense of religion by the number of folds of linen they swathe round their bronzed foreheads and above their coal-black eyes. Seriously, however, the slow-coaches are in the right of it. The turban is the natural head-dress for a burning climate: it defends the scalp thoroughly from the sun—not, of course, that it does not by its very amplitude produce great animal heat; but it is armour of proof against *coups de soleil*, and probably is not without its use in its tendency to produce perspiration. But, beyond this, a Mussulman's turban serves him in lieu of pockets: he carries his most precious effects wrapped up in its endless folds; and, with his piastres deeply sunk in the often-wreathed linen, goes to sleep in the caravanserai with the snug consciousness that his wealth is under his head, and that the thief will be uncommonly expert who achieves the violation of the turban. The Persian turbans are made upon the same principle as the Turkish; but they are generally garnished with two red stripes of cloth, forming the half of a square edging the crown. Here and there in the Eastern compartment you come upon a variety of the general and national headdress. In Persia, for example, there is a model of a lady attired in a zantar, or enormously high-peaked conical hat, looking very much like a fool's cap, and supporting a streaming array of muslin draperies. To some extent the head-dress in question may be paralleled by the old English style under Edward III., and in the present day by the Normandy female peasant *coiffure*—the source whence we derived the passing peculiarity of costume in the reign of the Plantagenet in question, but which, on the other side of the Channel, still prevails amid the orchards and sunny villages of that fairest and greenest portion of France. Specimens are also exhibited in the Persian case of the corresponding conical-shaped sheepskin hat which in some parts of the country forms the national costume, to the exclusion of the turban, the unremoved fleece operating as a powerful protector against the fiery darts of the sun. Occasionally, in some of the turban-wearing countries—particularly among the Moors on the Mediterranean coast of Africa—the face is further protected by clapping over the turban an enormously wide-brimmed straw hat. A great assortment of these broad-brims are to be seen in the Tunis department. On the average, they may measure very nearly a yard across, and must form a very efficient protection to their wearers—principally the agricultural labourers, who are obliged to pursue their unshaded toil in the hot and glaring noontide. It may be a matter of surprise to many readers to know that the cloth for turbans is extensively manufactured in England. Some years ago, in a large cotton spinning and weaving establishment in Manchester, we were astounded by the information that a vast number of long white bales of cloth then in progress of packing were intended for the Aleppo market, where they would be greedily bought and speedily converted into the national head-dress. It seemed odd that in the blackening smoke and commonplace—to us—associations of the city of the tall chimneys, fabrics were being turned out which would figure amid the national costumes of the far East, which would be seen glancing amid date-trees and palm groves, or borne aloft over the ship of the desert, perhaps to be apostrophised by some enthusiastic Eothen, as characteristic features of the land and specimens of the skill of the wise men of the East, produced by their rude looms, worked, perhaps, in the tent of the desert, or by the grateful oases, by the women of some rude nomadic tribe.

For a rainy country it is obvious that the turban would never do. An April in England would rot it; but for the common sense application of a sound scientific principle, and also for its graceful picturesqueness in the climes in which it is worn, the turban is an almost unequalled head-dress. If we cannot, however, adopt the Moslem style, so far as our resources go, it is high time that the hat nuisance, as it exists amongst us in the present ungraceful times, should be vigorously attacked. The abominable black pots which stick upon our heads are the ugliest and the most senseless of created things, or rather, perhaps, manufactured goods. The common hat has not a single good point to distinguish it. It is dear, as the number of shocking bad hats to be too often seen testifies. It is thoroughly inconvenient, and unpliable, and unaccomodating. The Frenchman can put his hat into his pocket; the Lowland or the Highland Scotsman can, if he choses, sit upon his bonnet, and no harm done; but the hat is as rigid as a helmet, and almost as fragile as a piece of pottery. A smart blow breaks it, and the look of the article is destroyed. In a crowd you have no means, if you uncover, of disposing of the "tile" with any comfort, and so as to keep it as much as possible out of the way. In windy weather, owing to the comparatively large surface it shows, and the comparatively small hold it has upon the head, it is very apt to be blown off, and once off, it has a mischievous facility for rolling, which is generally productive of more delight to the bystanders than to the incensed hat hunter. Again, the article affords no shade to the face, and no shelter to the head if the sun be at all powerful. Neither felt nor beaver ever did or ever will ward off a sun stroke, and neither felt nor beaver ever improved the appearance or added to the comfort of man or woman. The wideawake style of hats now coming into a certain faint vogue and occasional use are a great improvement upon the orthodox articles; but the individuals strong-minded enough to wear them are few and far between. Many a man who would look into a cannon's mouth gaping over a breach with tolerable composure, would shrink instinctively from being gazed at in the streets because ornamented with an out-of-the-way head-dress. The pioneers in all such little social movements often require more undaunted pluck than the leaders of revolutions or the founders of dynasties; and so it is to be feared, that, until some unforeseen convulsion, social, fashionable, or otherwise, shall have shaken the existing reign of tiles to their foundations, we are still likely to languish under the tasteless despotism and the expensive tyranny of "shocking bad hats."

From the head to the feet that range of yellow slippers invites us. Regard their make and peculiarities. The Orientals are a slipshod people; they detest being tight laced about the toes or ankles. You see at once, by the make of their papooshes—their shoes, and boots, and slippers—that they are anything but a pedestrian people. A few days of the work of a penny-postman would tear these flimsy bags of morocco leather into strips. The soles, indeed, in many cases seem no thicker or firmer than the "uppers;" while it is evident that the world of ladies' slippers exhibited are only intended to protect the feet while slipping and shuffling from one room of the harem to another. The principle upon which these last are cut is very much that which has evidently presided at the formation of those triumphs of greasy inconvenience, hotel slippers. The toes are thrust into a little confined space appropriated for them, where they are as much at their ease as the captives in the Black Hole of Calcutta, and to them is entrusted the duty of dragging after them the narrow sandal which shods the rest of the foot. So accoutred, the Turkish ladies must make as little progress out of doors as their Chinese cousins. But what matters that? In the East, unless a lady can ride in her litter, or her palanquin, she may walk barefooted if she pleases. Bismillah! the convenience and the pleasures of the world were made for "Lights of the Harem," and Bashaws with three tails, and Pachas of many tails, and not for any draggletailed helpmate of Cassim the cobler, and Hassan the barber. The majestic breadth of some of the Turkish gentlemen's shoes will call forth a stare of admiration. These are feet peculiarly intended, as it would seem by nature, for the slaughter of black beetles and other unpleasant interlopers of the kind, and of such the East evidently has its fair share. Another class of shoemaker handicraft shows pointed and turned-up toes, very much in the fashion of French sabots. By the way, in recent journeys in France, we have noticed a not inconsiderable improvement in the construction and appearance of those said sabots, as contrasted with the fashion prevalent some fifteen or twenty years ago. The mass of solid wood attached to the foot seems in the course of being diminished, and the shape of the article is becoming more neat, and, so far as such things can be so, more elegant than it used to be. On the sea-coast, however, the old-fashioned construction is still as general as ever. One reason of the looseness and easy size of the Mussulman shoes is undoubtedly the necessity which arises both from the laws of Moslemism and the Eastern notions of etiquette, the first of which recognises many spots of haunted holy ground, particularly the mosques, at the entrance to which the covering of the feet must be cast aside; and the last, prescribing to the guests of a distinguished man that they should enter his halls leaving their shoes at the threshold. The Tunisian shoes and boots are made very much after the fashion of the Turkish and Egyptian articles. The prevailing colour of the lesther is yellow, particularly when employed as boots. Many of the ladies' slippers are very gaily decorated with gold embroidery, the lumps formed by the devices and designs in golden lace not feeling, however, as we should imagine, very comfortable to the soles of the fair wearers. They must limp along, like so many pilgrims who have not boiled their peas.

Two characteristics may be at once noted in the general costume of the East—its flowing and robe-like disposition, the garments being generally so constructed as never to sit close to the person, and the wonderful difference between the style of dress worn by the poor and the magnates of the land. Civilisation invariably, so far as costume is concerned, brings together extremes. Previous to the French Revolution the sword was the badge of a gentleman; now all such tokens of difference in social rank are disclaimed, and the linen-draper's apprentice has his coat cut in the same fashion as the peer. We may pass a great Duke and an attorney's clerk in the street, and the attorney's clerk may be the more striking personage of the two. Not so in the East. Note the sunburst of "barbaric pearl and gold" which flashes round you as you enter the compartments sacred to the costumes of the richer classes. The taste is one for glittering trumpery, and also, no doubt, for the ostentatious display of riches. Both tendencies are thoroughly barbarian in their origin. The love of tinsel and gaud must clearly be carried to a wonderful extent among people who wear such robes and sit upon such saddles; the first stiff and lumpy with embroidered gold, the latter gleaming like burnished thrones. Had the glitter been derived from a substance of no particular value, it would, probably, have been still sought after; but, produced by precious metals, the desire to exhibit it becomes redoubled. The eye and mind of the possessor are at once gratified. He looks complacently at the magnificent figure he cuts, and thinks complacently of the evidence of his wealth and power which the figure in question denotes. The golden embellishments upon the Eastern jackets, robes, and doublets are neither very good nor very bad, so far as design and pattern go. Indeed, there is a strong common resemblance between the devices, which principally consist of figures, of flowers, and branches of trees. On some of the saddle-cloths and horse-trappings, foil and spangles of different colours are used to produce the effect of gems, and, seen from a distance, pass very well for amythests and emeralds. The fact of these gaudy cheats being thus employed corroborates our view as to the low standard of taste which presides over the whole tone and style of costume which we are describing. Putting, however, such considerations out of the question, no one will deny the instinctively felt effect of gorgeous riches, which these masses of cloth of gold and gold wrought work produce. In parts of the Egyptian and Tunisian collections, gold seems as plenty as in California. It gleams, and glitters, and sparkles before you at every turn; it stiffens the robes, it decorates the slippers, it glances from horse housings and from camel trappings; it shines from the blue steel of the curved sabre, it frets and embosses the elaborately carved pistol; it is inwoven with the cloth of the mantle, it fringes the loose lace of the veil, it is inwrought with the silk pink and blue of the shirt. Everywhere, and on everything, is gold. The notion of splendour has evidently been gold, of power—of beauty—of magnificence, regal or pachalic, has always been, gold—gold—gold. Look, for example, into the grand tent or divan which forms so conspicuous an object in the Indian collection. The eye is absolutely dazzled by the effulgence of the spectacle, and the mind instinctively reverts to the well-remembered tales of Eastern imaginative literature—to the descriptions of the marquees of genii, and the pavilions of enthroned monarchs, in which the daring adventurer, led by some protecting power, was shown, as it were, the riches of the earth, and the glories of them. It will be instructive, after we have finished our survey of the dresses of the great people in the East, to turn for a moment to those of the little and the humble of the land.

To some extent the cut and shape of the dresses of the more western of the Oriental people assimilates in a greater degree to the European standard than do the costumes of the nations lying still further towards the rising sun. Thus, the Turks wear jackets and tabard-like surcoats, evidently springing from the same general germ as that which in Europe became changed, through the doublet, first into the huge laced coat of the last century, and finally into the more modest dimensions of the present corresponding article. This general form and disposition of the upper garment is very much the same, whatever its materials may be. The coat of the fellah resembles, in shape and mode of putting on, the gaudy surcoat, all "daubed with gold lace," of the Pacha to whom he pays his tribute. The latter is simply a square cut surtout, very loose and full, so as to hang in folds about the body; the sleeves, the breast, which is partially open, the skirts, and, in some cases, indeed, the whole body of the garment plaited over, and stiffened with embroidery and ornamentation in gold thread. A close examination will show that the work is very coarse, the thread itself ill spun and irregular, and the effect being very much that which is produced by a near inspection of common theatrical garments, intended only to be viewed in the glare of the footlights. The texture of the cloth, too, upon which all this decoration and glitter is lavished, is often loose and coarse. We observed several garments on which scores of pounds' worth of gold must have been lavished upon a material which had very much the air of having come out of a "shoddy" mill, in other words, of cloth manufactured from refuse and torn-up and linen rags. However, the gold shone just as bravely on the inferior as on the superior texture; and this being the case, it is to be supposed that the design of the workman and the taste of the customer were alike satisfied. It is to be observed that no article of costume intended for the superior classes in the East—we do not, of course, allude to under-dresses—altogether escapes the embroiderer's needle. Occasionally we come upon coats, mantles, and so forth, embroidered with thread the colour of the stuff, or occasionally with thread of quite another hue. The appetite for personal ornament is universal. Furred dresses are occasionally to be seen, but in no great variety, and the material evidently disposed simply for the sake of ornament. Of the gay and handsome Albanian costume, a splendid example is given upon a lay figure; indeed, we wish that lay figures had been more common in the costume department, for, after all, it is difficult to tell the effect of a garment until we see it absolutely on. In the Albanian dress in question, however, there is the old fault—too much gold: we should have preferred a more simple specimen. The costume, however, is tolerably well known—the tight-fitting jacket, open at the breast and sleeves, so as to show a cataract of the whitest linen; the light-coloured kilt, striped and edged, and diversified with gay tints and bars of colouring; the close-fitting leggings, in the present instance lavishly embroidered with gold; the garments, set off with a brilliant finish of warlike accoutrements, certainly make as brave a show as ever was turned out by the united efforts of tailor and armourer.

Crossing the Mediterranean (and the Nave), we find the same general characteristics repeated in the richer costumes of Tunis. There is the same blaze of gold and tinsel. In the case of the silk skirts and the outward portions of female costume, the Africans indeed carry off the palm; their needlework being in general more neat and tasty, the devices more graceful, and the effect more artistic than that produced by the Levantine and the Asiatic workmanship. As a general thing, too, the Tunisian jackets are shorter and squarer than the Turkish—the skirts frequently not extending below the waist, while the garments of the same species on the opposite side of the Nave descend below the hip.

Leaving, however, for a moment, these state and gala dresses of the Oriental "nobs," let us devote a couple of words to the costumes of the masses. A great quantity of the fabric used by the lower classes in Egypt and Turkey, both in cottons, woollens, and silks, is exhibited. These stuffs have one general characteristic: they are coarsely and loosely woven, and full of fibres sticking up from the surface of the cloth; but the texture is strong, stout, and serviceable, often much better than the woollen ground on which the gold embroiderers have plied their craft. The colour in Egypt and Turkey for the men's dresses is generally sombre; but the women have no want of gay and staring patterns in their linens, cottons, and silks; the designs, although coarse and rough, being often very artistic, and showing the possession of that native and natural taste for the beautiful in form and harmonious in colouring which all the Schools of Design in the world cannot impart where it was originally wanting. In this respect, indeed, the coarse prints and woven patterns show a taste ahead of the appetite for gaudy metallic decoration to which we have adverted. A couple of the coats—the only garments, indeed—of the fellahs, or agricultural labourers of Egypt, are exhibited. They are made of coarse woollen stuff, with, if we mistake not, some intermixture of cotton, dyed black, and are neither more nor less than huge blouses or smock-frocks, such as are worn by our own and by the French rural population. The style of the three garments is, indeed, almost identical. There is in all three a small opening at the neck, worked round with some futile attempt at ornamental needlework—the only point of difference between the Eastern and Western garment being, that the former is made more broad and loose, so as to band in folds of drapery round the person of the wearer. When inspecting these Egyptian blouses, two or three labouring men, evidently from the country, came up, and one of them, fixing his eyes upon the fellah's dress, said, "Whoy, James, if they bean't regular gabardines!" Somewhat astonished at the use of the word, which we seldom see except in connexion with the old distinguishing garb of the Hebrews under the rule of *moyen age* police, the "Jewish gabardine," we asked the speaker why he called the dresses before him gabardines: the answer was the unsatisfactory one of "Whoy, measter, bekase they are." But, presently, the man, seeming to guess at our meaning, added that in his part of the country—the coast-line of Kent—"down Dover and Folkestone way, like," the smock-frocks of the peasantry were still popularly called gabardines. In observing the patterns of the Eastern stuffs, the first tendency which becomes evident is the love of the people for striped stuffs; white and blue and white and red arranged in broad longitudinal sections are very common patterns. The striped seems, in fact, to be the first arrangement of colours which catches the fancy of a people beginning to ornament their work. The same thing may be seen in the very curious collection of clothes and other articles from the gold and oil-coast of Western Africa. After stripes we have crosses; in other words, stripes disposed at right or at other angles to each other, and the result is something very much in the fashion of tartan. In the Turkish department there are many curious specimens of the Eastern tartan. One arrangement of colours upon silk, intended for a head-napkin or kerchief for a woman, was so remarkably like some of the designs in the *vestiarium Scoticum*, that we heard it conjectured that it could not possibly be anything else than the "set" of the clan tartan of the MacHassans or the MacSelims. On the Tunis side the rude and dawning taste of the patterns is well worthy of study. A number of the garments here shown are made of exceedingly coarse and strong stuff, which one wonders could be worn in such a climate. Many of these fabrics would make capital shooting, fishing, and yachting clothes, and we presume that they could be imported very cheaply. We repeat this hint for the benefit of gentlemen laying in a sporting wardrobe. An attentive inspection of the clothes of Tunis may also furnish useful

hints to the manufacturers of coarse stuffs at home. The patterns of the edge-ornaments of some of the blanket and cloak-pieces in Tunis well deserve the attention of students of design. The notions are coarse and roughly executed, but the germ of beauty and of feeling for the harmony of colour are never wanting. One pattern repeated in several pieces of very coarse cloth, almost like woollen canvass, put us greatly in mind of a common disposition of straight-lined ornament to be seen upon Grecian friezes and cornices; not, of course, that the patterns were identical, but the same principle and spirit had evidently inspired the leading and pervading idea. Amongst these Moorish mementos, we have numerous specimens of the pure Arabic dress, almost always consisting of spotless robes of flowing white. The bernous, or white mantle with a hood, was probably in use in the desert before the founding of the Pyramids. Every one who remembers Horace Vernet's Bedouin pictures will recal the picturesque effect of the fluttering masses of white drapery wreathed around and falling from the swarthy faces, and bare, sinewy arms of the children of Ishmael. In some parts of Arabia, the bernous, we believe, gives place to the haick, in which, instead of the pure white, the striped arrangement already alluded to is introduced, the colours generally white and red. So far the dresses of the lower classes in the East seem to be coarse enough, but by no means uncomfortable, and evidently well suited to the climate, defending the wearer from the heat, while they allow a thorough circulation of air. Turning, however, to the Indian department, and proceeding as far east as Hindostan, we find, by reference to the extensive collection of models of working craftsmen, that the dresses of the common people are infinitely more rude and barbarous than those of the western parts of Asia. In many cases, the weaver only has been engaged in their manufacture; there has been no tailoring—the costume simply consisting of a web of cloth, or rather a fragment of a web, twisted round the body of the wearer, so as best to suit his convenience or his taste. It will be observed that these pieces of cotton are uniformly the smallest in the cases of those labourers who have to make continuous or violent personal exertion. Thus, while the weaver, or the musician, or the carpenter, more or less cover their bodies with coarse cotton stuff, the messenger, the runner, or the palanquin-bearer are naked, except for the slip of cloth arranged round the loins. There is an odd significance and a meaning in the arrangement of this group of figures, half naked, and looking half-starved, round the outside of the gorgeous divan, the interior of which is one mass of burnished gold and silver tissue and brocade.

The juxtaposition tells of the moral and social condition of the vast empire in question as it was under the government of native chiefs. Inside the palaces and durbars, Oriental pomp, luxury, and gorgeousness; outside, Oriental nakedness, hunger, and oppression. Inside, selfish and magnificent despotism, ignorance, and cruelty, clad in purple and fine linen; outside, weak and cringing debasement—the same ignorance and the same cruelty shown in indifference to life and human suffering. The whole spectacle exhibiting two grand phases, necessarily and closely connected with each other—a despotic ruling power, lulled in the lap of blind indulgence, and a submissive horde of mindless population, as brutal as their sovereigns, but not so powerful; showing because deprived of the factitious ornament of wealth, the naked extremity of that degradation over which the barbaric splendour of their superiors casts, as far as regards themselves, a glimmering but deceiving light.

MUSICAL INSTRUMENTS.

(SECOND NOTICE.)

WE resume our remarks on the Pianofortes in the Great Exhibition, and shall direct our attention to some of the beautiful and costly instruments exhibited, of which we now give a more detailed account. We shall, however, offer no opinion of their comparative merits, either of tone or mechanical construction (simply noticing that which is new or curious), as each leading manufacturer has his peculiar variety of the former, and for the latter the widely spread reputation of the chief makers is a sufficient guarantee that their instruments are constructed on the best principles, though there may be some trifling differences of application particular to each.

We notice, first, from the prominent position they occupy, the two magnificent grand pianos in the Nave: the one in the English department, by Messrs. Broadwood, is a gorgeous-looking instrument; the sides are shaped out and are of ebony, covered with a running ornament of scroll-work and figures, carved in relief and gilt; the top and front is elaborately inlaid with satin-wood, and the legs are of ebony carved and gilt *en suite*, altogether presenting a rich and imposing appearance. The grand of Erard on the foreign side, is a very chaste and beautiful specimen of the French style of ornamental cabinet-work. It is of tulip-wood banded with panels of elegant design, richly inlaid with gold, silver, and tortoiseshell, with ormoulu mouldings, while the instrument is supported by well-executed figures in gilt metal, springing from a stand of the same wood. As a piece of elegant musical furniture it is perfect in design and execution.

Returning to the British side in the gallery, Class 10, we find Mr. Wornum sends a piccolo in walnut, and an Albion grand. We may remark, *en passant*, that it is to this gentleman we are indebted for the first introduction of the piccolo or small upright pianoforte, which, from its capability of being produced cheaply, has had considerable influence in promoting our manufacture of pianos, and, indeed, extending a knowledge and taste for music. Messrs. Broadwood's three grands are beautiful specimens of amboyna and walnut, and of that quiet and elegant style of cabinet-work which is generally more consonant to our English taste; and our manufacturers seem more desirous of availing themselves of the beauties of nature in the rich and varied figure of the different rare woods, than employing the designs of art. This may perhaps account for the comparative absence of buhl and marquetrie work in our pianofortes. Erard, again, exhibits two very handsome upright pianos, one richly carved in walnut in the Elizabethan style, and the other in rosewood inlaid with silver and supported by eight carved legs. One of the most elegant instruments in the Exhibition is the grand by Messrs. Collard, in pollard oak, carved and gilt in the style of Louis XV. The design is well carried out, and in admirable keeping. The square in walnut, with shaped sides, is very massive and handsome. There is also a carved cabinet piano by the same firm, which we do not, however, much admire. The oblique pianoforte, in ebony and gold, in the Italian style, with well-designed carved frets, &c., by Messrs. Kirkman, is a graceful and elegant instrument. We next come to Messrs. Stodart, who exhibit a grand in rosewood and a compact square: the peculiarity in the latter instrument is, that the string and sounding-board are sunk in the case, and that the hammers are made to strike down upon the strings instead of up to them, as usual: it has a very good tone, and is a convenient instrument, having almost the appearance of a sofa table when shut. Mr. Cadby sends a grand and cottage, in zebra wood, with his patent suspended sounding-board: there seems to be a great deal of machinery employed to effect this, and we cannot say that it is attended with any superior results, as a comparison with other instruments will attest; at the same time it has the disadvantage of increasing the bulk and expense of an instrument, both of which are already great enough. We have a curious-looking instrument in the Grand Exhibition, by M. Greiner, professed to be constructed on the principles of the speaking-trumpet, and with an application for tuning the unison at one operation. There is much ingenuity displayed in this construction, but we do not perceive the advantage to be gained by the tone issuing from the sides of the instrument; and although it would be very desirable to tune the unisons as a single string, as it would obviously save one-half the labour, we are afraid it is not so effectual, but that it requires regulating; and as one wire will always stretch more than another, a tuning-pin to each string seems preferable. This instrument being the first of the kind made, the inventor will, no doubt, improve upon it. Jenkins and Son exhibit a piano with a moveable front, especially adapted for cabins of ships and yachts, where space is an object. We observe an instrument in the French department, in which the same thing is effected, but in a much neater manner, the unsightly pieces of iron at the side being dispensed with. Mr. Addison sends a transposing pianoforte (No. 487), as also Messrs. Harwar and Towns, and Packer. Mr. Addison's principle is the most original, the others being on plans that have been adopted by different manufacturers for a long period. The carved cottage, in walnut, of Mr. Brinsmead is a very creditable piece of work, and will attract attention. Mr. Allason, and Messrs. Oetzmann and Plumb, also exhibit elegant cottage instruments in walnut; and Messrs. Ennever and Stedman, a walnut marquetrie cottage of excellent workmanship and design: the colours, however, do not harmonise nicely, and consequently it has a rather gaudy effect. The cottage pianoforte, the case work in papier maché, by Messrs. Jennens and Bettridge, is a novel adaptation of this class of ornament, and is exceedingly showy. The instrument is by Mr. Dimoline, of Bristol. Mr. Hopkinson (No. 500) exhibits a grand pianoforte, to which is applied his repetition action recently patented. Messrs. Rolfe, Mott, Luff, Metzler, Southwell, and others also contribute samples of their respective manufacture; and, taken as a whole, the display of pianofortes from this country fully bears out our superiority in this branch of manufacture.

We now pass over to the pianos exhibited in the Foreign Department. From Vienna we have a beautiful cottage, with buhl-work of excellent workmanship and design, with ormoulu figures on each side. This instrument is placed in the Austrian room, and a grand, in American maple, with a border of wood mosaic (No. 140 in the Gallery). The other instruments from Germany, of which there are a considerable number, present nothing remarkable in appearance and construction. Belgium sends a number of pianos, principally of the upright kind; but, as they are mostly on the French model, and display nothing very exquisite in their decoration, we need not enlarge upon them. On entering the French Department, the admirers of buhl and ormoulu work will find some elaborate specimens. We may mention those of M. Montal (No. 1664), who also sends an elegant cottage, in tulip wood and marquetrie, with transposition mechanism; and that of M. Van Ovenburg, which is exceedingly rich and tasteful. This instrument has a double sounding-board; but it does not seem to possess more tone than those constructed in the ordinary manner. Erard, besides his grand in the Nave, sends more harps, and five other pianos, ordinary enough in their appearance. We cannot perceive the utility of thus exhibiting duplicates of the same article, while in the warehouses of any of our principal manufacturers dozens of instruments could be found very superior in appearance; but we are glad our great English makers have taken a higher view of the matter, being content to be adequately represented without converting the Exhibition Building into a vast warehouse for their every-day productions. M. Hertz (No. 1268) exhibits an organ piano, a grand and semi-grand. M. Pape (No. 943), who sends specimens of his console pianos, is known to be one of the most scientific makers in Paris, having laboured for many years in the improvement of the instrument. He has introduced several inventions, some of which have been adopted in this country. MM. Rollet and Blanchet No. 1687) exhibit oblique and vertical pianos, some being transposers.

The self-acting piano of M. Debain (1172) is very ingenious, and is one of the best things of this kind we have seen. It has the great advantage of economy of space and very perfect execution. We notice two pianos (No. 475) by an association of workmen; one is in marquetrie, rather pretty. The tone of the French pianofortes, with which many of our readers are doubtless acquainted, is very distinct from the English. It is shorter, more *frappant* and piercing, requiring much greater force of finger to bring out; and this character of tone, with the stiffness of the touch, may account for the inclination to force or "thrash" the instrument sometimes observable in the foreign pianists, who, from being accustomed to these instruments, are scarcely prepared for the self-sustaining tones of our English pianos, with their light and delicate touch. As a general rule, foreign pianos are not admired in this country, and we must ourselves give our own the preference, as possessing sweeter and more musical tones.

We now proceed to notice the American contributions. They show a higher state of excellence and finish in pianofortes than in many other manufactures, which may be traced to the high price they obtain for their instruments, which enables them to employ first-rate workmen, and from their having no foreign competitors; for it is a singular fact, that while we export pianos to India, South America, Australia, Spain, and other parts of the world, our own instruments will not resist the dry climate of the United States, though we could supply them with a cheaper and in many cases a better instrument than they can manufacture. It appears the wood requires seasoning in their country; but we cannot held thinking, however, that attention on the part of our manufacturers to the causes which produce it, might enable them to conquer this defect. The American manufacturers excel in grand squares; and their instruments of this class will advantageously compare with the best of our own make. Their grands are by no means inferior, though not equal to ours. We have specimens of squares, from Nunn and Clarke, and Meyer; and of grands and squares, from Chickering, Pirson, &c. The square by Nunn and Clarke is a noble instrument of its class. We have a novelty in this department in the "Piano Violino," invented by Mr. J. S. Wood, of Virginia. This is a very ingenious and curious instrument; a kind of treadle at the bottom of the piano, near the pedals, sets in motion four bows, which pass over the strings of a violin placed at the back: when in motion, the keys of the piano, when played on, depress these bows, which work in a groove to guide them, and produce the corresponding note on the violin. One is struck with the novelty of the most difficult of musical instruments being played mechanically: but there is a monotony in tone, from the want of expression, common to all contrivances of this sort (and in this age of mechanical appliances it is well for art that it is so); and were the invention brought to the greatest perfection, it would at best be an imitation of an indifferent performer; at present it is imperfect.

It may be worthy of observation, in relation to pianofortes at the Exhibition, that Italy, the country in which the pianoforte was first invented (it having been first made in Florence, or at any rate the first piano brought to this country came from Rome), does not contribute a single instrument, while we have pianos from St. Petersburgh and Canada. Thus the very invention Italy gave birth to has been reared and brought to perfection by the more vigorous industry of other countries.

ORGANS.

The Organ has been called, not inaptly, the King of Instruments. All other instruments are made; the organ is *built*, and its gigantic bulk is attended with corresponding power. In the grave and solemn rites of the Protestant worship, the organ is the only instrument deemed worthy to accompany the prayers and thanksgivings of the faithful; and the effect of its sublime harmonies, in deepening our feelings of religious awe and veneration, has been felt by every one. Considered, however, in relation to its general utility, and its importance as constituting a branch of national manufacture, the organ holds a place very inferior to the pianoforte. Those powers from which it derives its peculiar value are the result of large size: hence it cannot become a domestic instrument, unless under the lofty roofs of the great and wealthy; while its powers are so limited in variety, that, even in great houses, the pianoforte is much more available for almost every musical purpose. The organ, therefore, is confined almost exclusively to churches and other places of religious worship; being, moreover, very costly, and almost as durable as the edifice in which it is erected, the demand for this noblest of instruments is supplied by a comparatively small number of manufacturers.

The organ is a very ancient instrument. The principle of its construction, notwithstanding the complexity of its modern mechanism, is exceedingly simple. It is, in fact, neither more nor less than a gigantic Pan's pipe, its sounds being produced by wind blown into rows of tubes of different lengths. When Polyphemus, wishing to serenade the nymph Galatea, exclaims—

> Bring me a hundred reeds of proper growth,
> To make a pipe for my capacious mouth—

we may imagine the giant's pipe, with its hundred reeds, and its sounds like the roarings of the blast, to have been the most primitive form of the organ. It remained to substitute wood or metal for reeds, to blow into the pipes by means of bellows, and to open and shut them by keys; and the instrument became, in its general features, nearly what it is at present.

This appears to have been done a thousand years ago. There is reason to believe that an organ was sent as a present by the Greek Emperor Constantine to King Pepin of France, in the eighth century; and, in the tenth, the Organ was in general use in Germany, France, and England. In those days, of course, it was a rude instrument. An organ erected by St. Elphegus, Bishop of Winchester, in the Cathedral of that city, required seventy men to work its bellows. From Beddoes de Celles' curious work on the Organ, we learn that the organ-keys were at first five or six inches broad, and must have consequently been played upon not by pressure of the finger, but by blows of the fist. We learn also, that, in the beginning of the twelfth century, the compass of the instrument did not exceed two octaves, and that it was not till the end of the sixteenth century that the machinery for the multiplication of *stops* was invented.

From that time, the cathedrals, churches, and convents of the principal countries in Europe came to be supplied with organs. The organ-builders of Germany and Flanders took the lead in the magnitude and power of their instruments, and maintained their pre-eminence till they were gradually rivalled and surpassed by our countrymen. The great Haerlem organ, which, within our memory, used to be talked of as one of the wonders of the world, has lost its solitary supremacy, and is acknowledged to be equalled, if not excelled, by the organs of York and Birmingham. The rich ecclesiastical establishments of Italy and Spain are, of course, supplied sufficiently with organs; but it does not appear that the manufacture of the instrument has risen to any great height in those countries. The English organs unquestionably now take precedence of all others; and it is doubtless owing to this, that scarcely any foreign organs have been sent to the Exhibition.

The principal organs in the Exhibition are of London manufacture. There is one, by Mr. Willis, of enormous—we believe, unprecedented—magnitude. It has 77 stops, and 4474 pipes; the greatest pipe being of 32 feet, and giving the lowest note known in music—the C, which is two octaves lower than the note given by the fourth string of the violoncello. It has three rows of keys—the great organ, the choir organ, and the swell; besides pedals extending to two octaves and a half. This monster instrument, though erected in the place assigned to it, is still in an unfinished state.

Mr. Hill, one of the most eminent of our organ-builders, has a great and noble church organ, containing 15 stops, with a corresponding number of pipes, two rows of keys, and pedals. It displays several important improvements in mechanism, which have been made by Mr. Hill. One of these is a contrivance for the important purpose of lightening the touch of the instrument, so as to make the pipes instantly "speak" by a moderate pressure of the finger. We could not easily make the mechanical means of accomplishing this object intelligible in a notice of this kind; but the effect is that this great instrument is almost as easily played upon as a grand pianoforte, and the most rapid passages are rendered clear and articulate. There is also an ingenious contrivance to enable the performer to change the stops without the noise and interruption to his playing that generally attend this operation. In organ-music many of the finest effects are produced by constantly changing the stops, and throwing them into new and varied combinations; and, therefore, the means of making these changes easily and promptly is of the utmost value to the organist.

Messrs. Gray and Davison, also organ-builders of much eminence, have a church organ of great magnitude, consisting of 39 stops, with three rows of keys, and two octaves and a half of pedals. Its external aspect is grand and beautiful, the case being of carved oak, and the front pipes richly ornamented.

The remainder of the English organs are chamber instruments; intended, that is to say, for private dwelling-houses, but requiring large and lofty rooms. These are manufactured chiefly by Messrs. Walker, Bishop, and Holdich. There is also what is called an "enharmonic organ," intended to illustrate Colonel Thompson's system of "perfect intonation," by producing those minute divisions of the scale which are necessary in order to play perfectly in tune in all the different keys. This same "perfect intonation" is a thing which has often engaged the attention of speculative men; volumes have been written upon it, bristling with algebraical formulæ, geometrical diagrams, and arithmetical calculations; and Colonel Thompson has only attempted what has been attempted by many before him. But every practical musician knows that it is a chimæra, as impracticable as the quadrature of the circle, and, supposing it practicable, without value.

There is only one German organ, built by M. Schulze, of Rudolstadt. It is an excellent church organ, of moderate size, having 16 stops, two rows of keys, and pedals. France, too, has only sent one organ, the work of M. Ducroquet, of Paris. It has 20 stops, two rows of keys, and two octaves of pedals, and is a very admirable specimen of French manufacture.

THE NATIVE METALS AND METALIFEROUS ORES.

MANY remarkable and highly interesting specimens of this kind are shown in various parts of the Building, which may be referred to with advantage, as giving valuable information to those desirous of acquiring it on a very important subject. We propose to detail a few of these, with such information as may render them more useful.

One of the first of such specimens that will attract notice is the noble pebble of pure GOLD, from California, exhibited in the South-west Gallery, near the gems of Messrs. Hunt and Roskell, and amongst various articles of jewellery and plate. This block, weighing above 18 lb. and worth nearly £800, will surprise at first by its apparent smallness; but it must be remembered that gold is one of the heaviest substances known, weighing nearly twice as much as a piece of silver of the same dimensions and more than six times as much as a common pebble exactly identical in form. Gold, till within the last few years, was obtained almost entirely from Siberia and Brazil, although Africa, the East Indian islands, and even some parts of Europe yielded certain supplies. No metal is, in fact, more widely diffused through the earth than this, which is so highly prized and often thought so scarce: but the quantity of a material is not necessarily coincident with its wide diffusion; and while there are, perhaps, very few known districts throughout the earth in which gold might not be found by seeking, yet, in most cases, the search would be so costly, that the material, when obtained, would not at all repay the trouble of getting. Still, large quantities have been introduced into Europe annually for a long time past, and it is a great proof of the wide use of the metal that its price has not yet been affected by all the additions that have been made. The average annual supply for some years before the discovery of the Californian mines and washings was about 80,000 lb. avoirdupois, the value being about five millions sterling. This is now, perhaps, doubled; but hitherto the demand has fully kept pace with the supply. Besides the large block already noticed, which was discovered and brought home by an Irishman, who was on the point of leaving the country in a state of hopeless destitution, when he was lucky enough to turn out this single but valuable pebble, there are several other samples of Californian gold, chiefly exhibited amongst the goods of the United States. They are all nearly pure, and have hitherto been obtained, with very rare exceptions, from amongst the sand and gravel washed down by torrents from the adjacent mountain country, and accumulated in depressions or natural receptacles, where the progress of the water has been somewhat checked, and the weight of the gold caused it to sink down sooner than the accompanying stones. The largest specimens of gold yet found are from Siberia, whence several lumps exceeding 15 lb. weight have been obtained; and one lump in 1843, weighing no less than 78 lb. avoirdupois, and therefore worth about £5000 In all gold districts, however, such discoveries are rare, the general condition of the produce being rather that of small grains sparingly distributed through sand and rock, and requiring considerable labour to extract and separate. It is estimated that the sands of a river will just pay for gold-washing, if they contain at the rate of 24 grains per cwt. of sand. The uses of gold are too well known to require much account; but it may be well to direct the reader's attention to an interesting series of manufactured and beaten gold exhibited in Class 1, near the Sculpture Court (No. 477, 478); and also a series of metallic buttons, showing the different colour and appearance of gold and other metals when pure and alloyed for various purposes (No. 487).

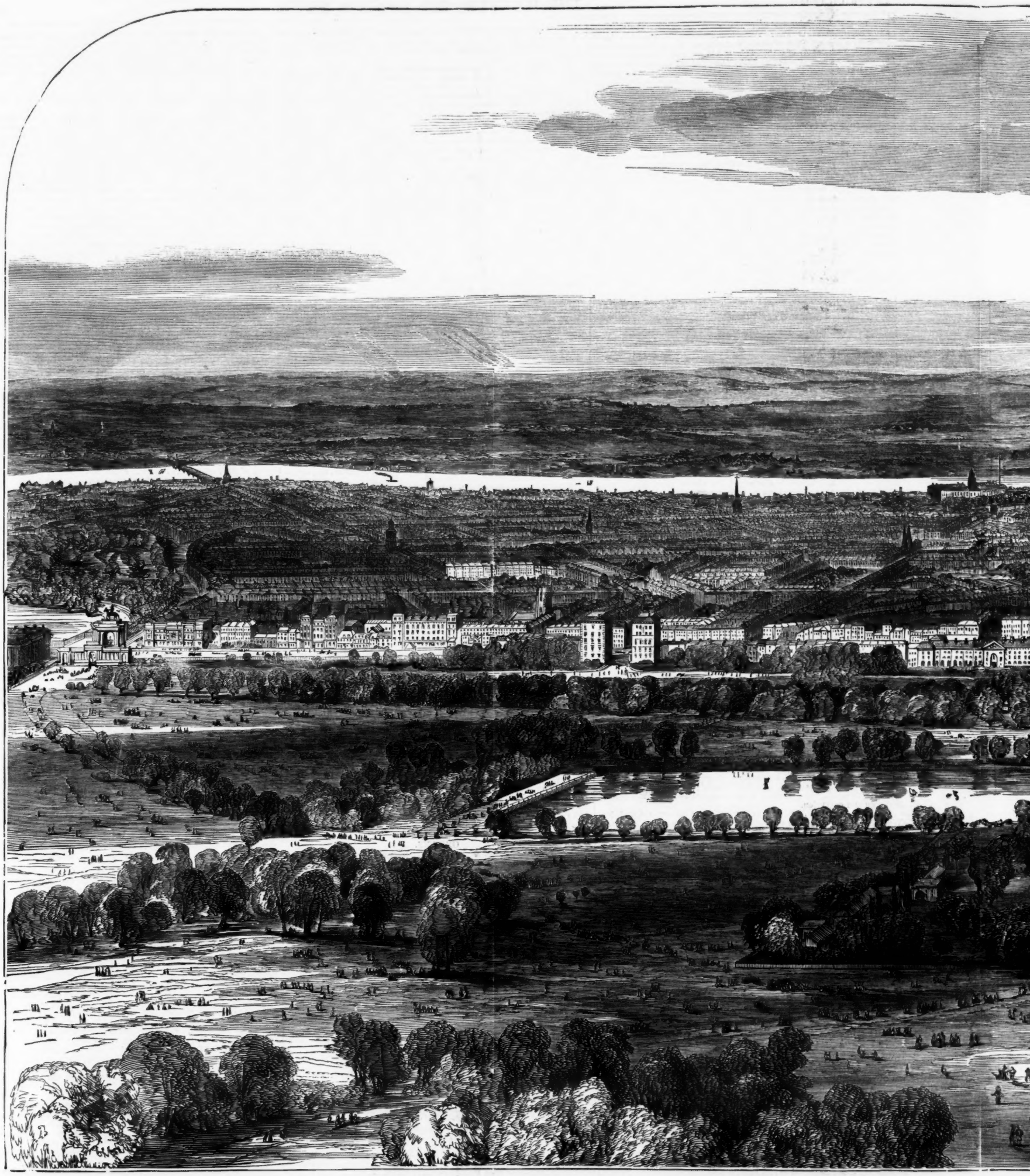
Amongst its uses, the peculiar quality of gold to bear almost any amount of hammering, and yet retain a perfect cohesion in almost any conceivable state of thinness, is perhaps, the most remarkable and important. Owing to this, gold leaf can be produced so thin as to be introduced for the cheapest and commonest purposes, and thus the great beauty indestructibility of themetal is taken advantage of in innumerable cases where otherwise its costliness would render it unattainable.

SILVER, like gold, is found sometimes native; but this is not the most common form in which the metal occurs. There are, however, some very noble specimens of native silver in the Exhibition, the most interesting being a large block from Chili, weighing upwards of 150 lb. avoirdupois. This, though not quite the largest, in one of the finest lumps of native silver yet brought to this country, and is valued at about £600. Some other extremely beautiful specimens, in a very different state, are exhibited from Norway, and are well worthy of examination, from the crystalline and semi-crystalline condition in which they appear.

Silver is not so widely distributed as gold; but is far more abundant, and its uses more numerous. Mixed with a small quantity of copper, to give it hardness, it enters so largely into use as a coin and for plate, that the consumption and waste from these sources alone must be enormous; but it is also much used in the arts for various purposes, in chemistry and medicine, and lately for electrotyping. The value of the silver annually introduced is estimated at upwards of eight millions stirling; but the relative value of silver to that of the necessaries of life does not greatly alter.

Near the specimens of gold leaf already alluded to in Class 1, will be found a very interesting series of rare metals, exhibited by Mr. Percival Johnson, and including some manufactured articles (No. 477). Of these metals PLATINUM is the one in most general use, and is of great importance in various cases where a material is needed which will resist any known furnace-heat without being affected by acid vapours and without decomposing the atmospheric air.

Platinum is found native in Brazil and Siberia, generally in small lumps, but sometimes in masses of considerable size. Its weight is



BIRD'S-EYE VIEW OF THE CRYSTAL PAL

BIRD'S-EYE VIEW OF THE CRYSTAL PALACE.

THIS artistic Illustration not only shows the whole of the Crystal Palace, but also its beautiful location more completely than any view which has hitherto appeared in this Journal. The position of the Sketcher was upon the high ground of Hyde Park—the Deer Park, we have heard it called—immediately verging upon Kensington Gardens. From this point a most interesting view is gained of the western suburb lying beyond the Palace of Glass, whose beauty is almost mirrored in the lake-like Serpentine. We will attempt a recapitulation of the main features of the View.

The foreground of the Picture is the most *sylvan* portion of Hyde Park, "lying high and dry," as we remarked a few weeks since. The trees are more picturesque here than in any other portion of the Park; and the scenery even partakes of a rural character. Londoners may yet congratulate themselves upon retaining this delightful spot for air and exercise, notwithstanding sundry infringements which are matter of curious history. The Park originally contained 620 acres, of which Kensington Gardens and the site of the Palace were a portion; the Park, as it now exists, is rather less than 395 acres in extent.

About midway in the foreground is the fine sheet of water known as the Serpentine, crossed at its point of separation by a stone bridge, of elegant design, by Sir John Rennie. By the kindly influence of the Earl of Carlisle, when Chief Commissioner of Her Majesty's Woods and Forests, pleasure-boats for hire were introduced upon the Serpentine: the road upon its south bank, pleasantly overhung with trees, and refreshing from its proximity to the water, is now the fashionable before-dinner drive; while the road from Hyde-park Corner to Cumberland Gate is comparatively deserted for recreation.

The space between the south bank of the Serpentine and the Crystal Palace is the road known as the Queen's Drive; between which and the water are some fine timber trees. We have next the entire northern front and east end of the Exhibition Building. The wonderful fabric is here seen to greater advantage than elsewhere, owing to the proximity of the road and a brick-and-mortar town to the southern front: the magnificent centre—the transept—is here seen in all its lustrous beauty. Westward of the fairy-like structure is the large space of ground which has been appropriated for the carriages of visitors to the Exhibition; and when thus occupied it illustrates the wealth and luxury of our metropolis better than a whole chapter upon social economy. Fronting this carriage *dépôt*, in the Kensington-road, is M. Soyer's Symposium, formerly the residence of the Countess of Blessington. The line eastward is Ennismore-place, an ornate specimen of the more recent style of house-building for persons of fortune. Opposite is Prince's Gate and the Model Lodging House (represented upon the front page of the present Number), nearly facing the transept entrance to the Exhibition Palace. The long building immediately eastward is the Cavalry Barracks, at Knightsbridge.

We are now in Rotten-row, which we have already described and illustrated recently (see page 463). The name is thought to have originated in the locality having been formerly the resort of gipsies, vagrants, and thieves, who commonly cluster about the suburbs of a wealthy city. However this may be, the name ill assorts with the present fashionable celebrity of the Ride, which was somewhat grudged for the approach to the Crystal Palace. This was altogether a mistake; and we are sorry to read such misinformation as is conveyed in the following passage from the last published "Guide to the British Metropolis;" the author of which states, "this ride has been injured by the erection of the Crystal Palace, opposite the Prince's Gate." Its erection reminds one of some beautiful vision of fairy lore; or, in Mr. Thackeray's clever legend:—

> But yesterday a naked sod,
> The dandies sneered from Rotten-row,
> And sauntered o'er it to and fro,
> And see 'tis done!
> As though 'twere by a wizard's rod,
> A blazing arch of lucid glass,
> Leaps like a fountain from the grass
> To meet the sun.
> A quiet green, but few days since,
> With cattle browsing in the shade,
> And lo! long lines of bright arcade
> In order raised;
> A palace as for fairy prince,
> A rare pavilion, such as man
> Saw never since mankind began,
> And built and glazed.

Equally poetical and truthful is the "quiet green;" for, notwithstanding the idle objections to the site upon the score of encroachment, there is scarcely any portion of Hyde Park so little frequented as was the area which has received in its verdant bosom the Palace of Glass.

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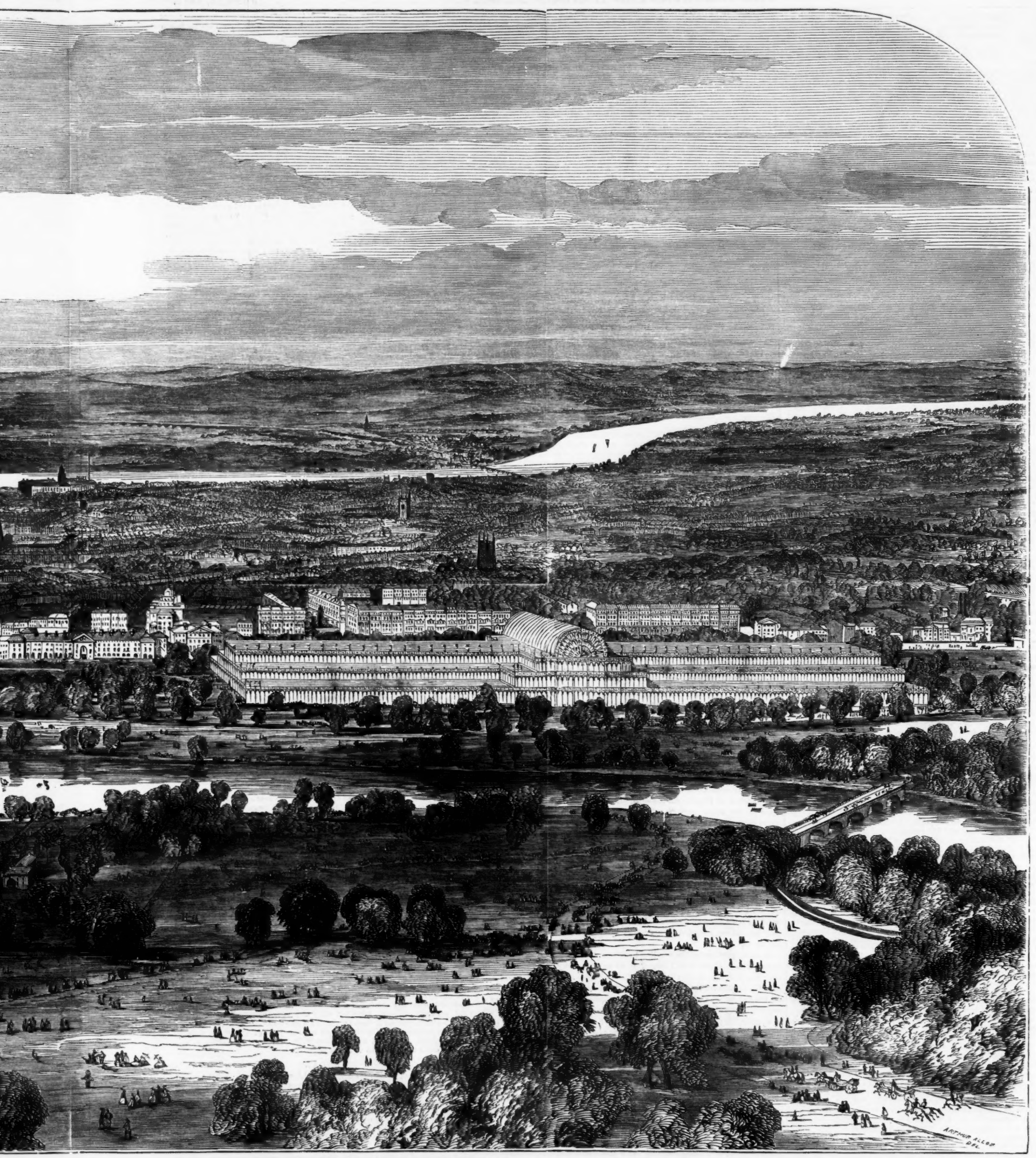

AL PALACE, AND SURROUNDING COUNTRY.

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The two large and lofty houses about midway between the Palace and Hyde-park Corner, flank Albert-gate: as a bit of artistic gossip, the deer upon the piers formerly occupied a similar position at the Ranger's Lodge, in Piccadilly; and were modelled from a pair of prints by Bartolozzi. There is little further to note until we reach the elegant entrance-screen at Hyde-park Corner; the Green Park Arch opposite, with its colossal equestrian statue of "the Duke;" the handsome stone-cased Apsley House; and the ornamental *façade* of St. George's Hospital; these forming as noble and interesting a group of objects as is to be seen in any part of the metropolis.

The reader need scarcely be told that the sinuous broad white line in the Picture is the silver Thames, crossed by Vauxhall-bridge, eastward in the View; and by Battersea-bridge westward, where the river takes one of those sweeps or turns which add so much to the beauty and variety of the course of this world-famed stream.

Between the Thames and the fo ground of the Picture is an extremely interesting district—rich in associations of past and present greatness. At the eastern boundary of the View are the gardens of Buckingham Palace. Immediately west lies the newly-built Belgravia, a region of squares and streets, mostly erected with bricks made from clay which formerly covered the site. Its principal square, 748 yards in circuit, with its Corinthian embellishments, throws far into the shade the squares of the last century. From Belgravia westward lies the thickly-peopled locality of Brompton, where actors, artists, and men of letters do love to dwell. Even Brompton, the greater part of whose site was, some thirty years since, a succession of nursery-grounds, has already its New Town, so rapid has been the growth of buildings in this quarter. Further west in the Picture, a large cluster of villas adjoins courtly old Kensington, whose palace is memorable as the birthplace of our beloved Sovereign.

Retracing our descriptive steps, the view starts from the Penitentiary, at Milbank; and the district thence to Battersea Bridge is mostly occupied by Chelsea, which has a host of notabilities: indeed, it would be difficult to name a suburb so rich in association with illustrious names, and so fraught with memories of the good and great. The palace Hospital forms a point of direction to the sight, and occupies the centre of the Picture: it is a noble rival to Greenwich Hospital; and how characteristic is it of the gratitude of Englishmen to those who have contributed to their glory, that at the two extremities of the metropolis should be erected homes for veteran heroes—in design rivalling royal palaces. Next week, by the way, the grounds of Chelsea Hospital will be open to the public for a new object of benevolence; the holding of a musical festival in aid of the funds of the Consumption Hospital, already partly built in genial Brompton.

Chelsea, with its Cheyne walk, is, to our thinking, a Dutch-like picture: it has an air of faded nobility: its buns and its china live but in the esteem of collectors of curiosities; but its church holds memorials of the world's benefactors—of the wise and truly great—endeared by the lapse of ages. But the steam-boat piers, and their little fleet of steamers, are the glories of our own times, and invest the locality with new life. Just westward of the bridge are the gay Cremorne Gardens; reminding one that not far from Chelsea Hospital is the site of the Ranelagh of the last century, now remembered but in the names of thoroughfares and gossiping chronicles of public amusements.

The district we have been traversing is well provided with churches, nearly all of which were built in the present century. The spire at the foot of Vauxhall-bridge is that of an elegant church now building at the cost of a pious individual; Belgravia has the roomy church of St. Peter; and St. Paul's, at Knightsbridge, of late the subject of painful controversy. As St. Paul's proved to be the church of the rich, so St. Barnabas, in the same district, was built for the poor, and is a portion of a college founded for the wants, secular as well as spiritual, of the industrious classes. The twin spires in the centre of the View are those of Trinity Church in Sloane-street. Chelsea, besides its old river-side St. Luke's, has a new church with a lofty pinnacled tower, dedicated to the same Saint. Brompton has an early pointed church, the site of which was, some thirty years since, a nursery-ground; and in West Brompton has lately been erected a Decorated church, abounding with beautiful detail.

The south bank of the Thames presents an interesting succession of objects from Vauxhall Gardens, the pleasure-ground of the last two centuries, to the river-side Tivoli Tavern of Battersea of our own age. The tall chimney of the factory is more suggestive of the country's greatness; and the railway indicated in the background reminds one how much the present age is indebted to this mighty medium for its immense advancement upon its predecessors. Far away, in the extreme distance, stretch the Surrey hills.

Returning to the *maximum opus* of this impressive scene—the Crystal Palace—we shall only add, that from no point can the fairy-like beauty of the fabric be better appreciated than from the spot chosen by our Artist—where it appears like a rich gem, set amidst an assemblage of objects that alike indicate the industrial wealth and high civilisation of this happy country.

greater in proportion even than that of gold, and it is, in fact, when hammered, the heaviest substance known. It bears welding like iron, and can thus be manufactured without difficulty, as it is also very malleable. Several chemical utensils made of it are exhibited by Mr. Johnson, and a very remarkable platinum dish may be seen among the French goods.

In the same case with the platinum are specimens of PALLADIUM, IRIDIUM, OSMIUM, and RHODIUM—metals for the most part extremely rare and but little used in the arts, but some of them at least worthy of notice. Palladium is more common than the rest, and has lately been employed in electrotyping, for which it seems admirably adapted, as it resists exposure as well as gold, and is far better fitted for various purposes than silver or platinum. In the manufacture of philosophical and surgical instruments especially, this metal may be used with advantage; and it has been employed in dental operations. Iridium and rhodium are chiefly used at present in making nibs for pens, a purpose for which their hardness and indestructibility are useful qualities.

Various interesting samples of MERCURY and its ores (chiefly cinnabar) are exhibited, from Austria, Spain, and America. The former are from the mines of Idria, long known and much worked, and yielding at one time large supplies. The specimens from Spain are from the equally well-known mines of Almaden; while the American ones are chiefly from California, where considerable accumulations of this mineral seem to exist, though hitherto they have been little worked. Mercury is the source of the vermillion colour used in dying, and is a metal of considerable interest on account of its fluidity at ordinary temperatures.

Very fine specimens of native COPPER are exhibited, both from our own country and elsewhere, together with numerous ores of that useful metal. Among the former, Mr. Berger has sent some very fine pieces obtained from a mine in the serpentine rock of Cornwall. The best portions of these are placed in the passage to the North-west Gallery stairs, but some are to be found in Class 1, No. 439. Other native coppers well worthy of notice are from the shores of Lake Superior, where a mass of gigantic proportions (estimated to weigh 80 tons) was discovered some time ago; but, owing to the want of sufficient means of communication, it is believed that it still remains, and is of comparatively little value. A large fragment of this is exhibited by Mr. Tennant. Besides these, many of the ores of copper are shown, especially the rich and valuable carbonates from South Australia; the poorer but still not unimportant sulphurets from Cornwall and other parts of the British Islands; and some less common but interesting ores from Austria, France, Germany, Spain, and South America. Russia has also sent some contributions of great value in reference to this metal, especially by providing several magnificent blocks of malachite (green carbonate of copper), more adapted for ornamental work than for reducing to metallic copper. A large and beautiful vase of hammered copper is also to be noticed, as illustrating both the purity of the metal and the excellence of the workmanship.

LEAD is never found in the native state, or at least is so rare as to have no value in that respect in the arts. The common ore of lead is a combination with sulphur called *galena*, of which several very noble specimens will be found near the eastern extremity of Class 1, exhibited by several persons, amongst whom we may especially notice Mr. Sopwith and the Alston-Moor miners, Mr. Pattinson, and various exhibitors from Wales, Scotland, Ireland, and the Isle of Man. In most of these cases, the ores in the rough state are the chief objects of interest; but two or three remarkable exceptions occur, in which the complete history of the manufacture of the metal, or some part of the process, is more distinctly indicated. Thus, Mr Sopwith shows samples of lead ore in every stage of preparation, from the rough undressed material as it is brought up by the miner from the bowels of the earth, through the modifications it undergoes by crushing, washing, roasting, &c., until at length it is reduced by smelting to metallic lead. In that state it is still alloyed with a certain percentage of silver, which in the case of the poorer ores was till lately left with the lead, as the means of separation were too costly to be repaid by the silver extracted and the higher price obtained for the purer metal. Now, however, by the method invented and exhibited by Mr. Pattinson, advantage is taken of the tendency of metals to separate while one is undergoing crystallization by slow cooling; and, by means of long ladles, resembling a perforated sugar-scoop on a gigantic scale, the lead, while granulating, is removed from the more fluid part of the molten mass, which is thus left with a gradually increasing proportion of silver, till at length it is so rich that the lead may, without serious loss, be allowed to become oxidised in an absorbent crucible, while the silver remains as a kind of button, of which one specimen is shown, weighing about 12,000 oz., and several others are also exhibited of somewhat smaller proportions, but still sufficiently remarkable to draw special notice. The beauty of this process renders it well worthy of attention, and the whole is fully explained by a series of diagrams and specimens, and a printed account, which may be obtained by any one visiting this part of the Exhibition.

ZINC is a metal of considerable interest at present, and admirably illustrated, in various ways, in the Exhibition. Most of the zinc of commerce (spelter) is obtained from the ore called calamine (carbonate of zinc), exceedingly abundant in Belgium and Silesia, but also found extensively in the Mendip Hills, in Somersetshire, in Flintshire, and Derbyshire, and other mining districts of the British islands, and elsewhere in Europe. England also contains large quantities of blende or black-jack (the sulphuret), and is capable of yielding a very large supply, though at present the material is hardly worth working. Zinc is now used extensively in various constructions, and for domestic and farm purposes; but its applicability for castings on a large scale is also fully proved, by the numerous admirable works of this kind exhibited in the Nave and elsewhere. A block of zinc ore occupies a prominent place amongst the American goods, and is further illustrated by a series of slabs and panels, painted with a material in which zinc takes the place of the lead generally used by us (as white lead or oxide) as the basis of all oil pigments. Owing to the injurious effects arising to painters and others employed in the frequent handling of white lead, it is most desirable that the material should be, if possible, replaced by a less mischievous substance, and thus the subject assumes an importance which would not otherwise belong to it. Zinc is very extensively exhibited by the Vieille Montagne Company of Brussels and Paris, who work the largest and most important mines of this metal; and the efforts made to bring forward the metal and apply it to useful purposes of various kinds are worthy of very special remark. We need scarcely do more than mention the great value of zinc combined with copper in the manufacture of brass.

TIN is a rare metal compared with many others, and is usually found only in the form of tin-stone (an oxide). It is obtained principally from Cornwall and the islands of the Indian Archipelago; and each of these districts will be found to have sent samples of their produce in this respect. The specimens from our own country consist partly of what are called "stream ores," or rolled pebbles of tin-stone, worn by the action of water, and mixed up with sand and gravel, and partly of portions of tin veins, of which there are many interesting specimens, showing the general form, character, and extent in which the ore exists in the parent rock. In addition to these, will be found models of much interest, which illustrate the mechanical mode of separating the heavier or metalliferous particles from their earthy associates; and also models of the smelting establishments where the tin is first reduced and then refined so as to be in a condition fit for use by the worker in metals. Tin is but little employed as a metal directly; but, as it mixes freely with several other metals, forming valuable alloys, it is often used in the arts. The alloys with quicksilver for the backs of mirrors, with copper to form bronze and bell-metal, with antimony in the manufacture of hard pewter, with antimony, bismuth, and copper for Brittania-metal, and with the same metals combined with lead for type metal, are examples of the uses which will at once show the importance of the subject. In plating the use of tin is not less remarkable as the common tin-plate, which consists of sheets of iron dipped in tin, and the method of lining copper vessels with tin for culinary purposes, will sufficiently illustrate. The salts of tin are extensively used in dying and calico-printing, and in many other ways where the colours obtained from them are required.

NICKEL is a metal not used by itself, but very important in the manufacture of several alloys, well known under various names as imitations of silver. German silver, argentine and other white metals, are thus formed by an admixture in certain proportions of several metals, of which copper, nickel, and zinc are the essential ingredients. Nickel is generally found in nature associated with COBALT, or white metal, not used except in its earthy state, in which it affords a blue digment of extreme value for its beauty and permanence and greatly used in all encaustic work of whatever kind where the colour has to be burnt into any surface and requires therefore to stand exposure to a very high temperature. Nickel and cobalt are not found so extensively in England as in Germany, Norway, and other mining districts on the Continent, from which the greater part of the supply is now obtained. Good specimens of both metals and of the oxides of cobalt (*zaffre* of commerce), and the blue glass called *smalts* used extensively as a colouring material, will be found exhibited in Saxony (Nos. 9 and 10) and some other countries of the Zollverein, highly illustrative of the nature of the material and the uses to which it is applied. Specimens from Cornwall are exhibited in Class 1 (British) 511 and 512.

BISMUTH, of which a very beautiful specimen is exhibited on a table on the south side of the Nave, near the Austrian department, is a metal which, like nickel, is not used alone, but has considerable value in mixing with other metals, the effect being to render the alloy more fusible. It is found chiefly in Saxony and associated with cobalt, from which it is separated by a peculiar process of distillation. Lead and tin, combined with bismuth in various proportions, and with the occasional admixture of copper, antimony, and other metals, are used in the arts for various purposes—the manufacture of type metal, plumber's solder, pewter, and fusible metal being the principal. The oxides and salts of bismuth, but chiefly the nitrate, are used in dying and calico-printing.

ANTIMONY, like bismuth and nickel, is not used alone as a metal, although very abundantly distributed and easily obtained in the metallic state. Very good specimens of the different conditions of antimony ore (sulphuret) from different localities, and metallic antimony, will be found exhibited by Mr. Hallett in Class 1 (No. 481), and some of these show the crystalline form in which the surface may be obtained. The ore of antimony in a state of fine powder is used in the East to stain the hair, and the salts are used in medicine and dying. The metal itself is employed in various alloys, some of which we have already referred too. Among other applications not mentioned is that of antimony and lead to produce a harder substance than lead, used in engraving music. The admixtures of antimony with other metals are usually more brittle than the metals alloyed.

ARSENIC is found native, and is very abundantly distributed with the ores of several other metals; but, though extensively used in the arts and in medicine, it is not itself employed directly in the metallic state. In combination with other metals it is frequently present in small proportions, and it is an important ingredient in common shot, the lead running into round drops much better with a proportion of arsenic than without it. Specimens of the oxide of arsenic (white arsenic), as obtained from tin furnaces, are exhibited in Class 1, by Mr. Garland (488); and as this form is the one most commonly employed in the arts and in medicine, it deserves to be noticed. The sulphuret of arsenic, *orpiment*, or King's yellow; and *realgar*, a fine orange red pigment, are a good deal used in giving colour in various ways.

URANIUM and CHROMIUM are two metals rarely or never seen in the metallic state, but not without considerable importance in the arts (especially the later) as affording valuable pigments. Uranium, and its salts and oxide, are shown by Mr. P. Johnson, in his case already alluded to (No. 477), and chrome ores and oxides are exhibited by one or two British exhibitors, but chiefly from our North American colonies and India. The case exhibited by the Indian Iron and Steel Company, near the Transept, contains a very good series, showing the colours obtained from the metal.

TUNGSTEN is another metal not used at all in the metallic state, but of which the salt are employed occasionally, chiefly in dying and calico printing. The separation of wolfram (tungstate of iron) from tin, with which it is often found mixed in Cornwall, is a troublesome and tedious process, and is illustrated by a series of specimens exhibited by Mr. Oxland (No. 485).

MANGANESE is a metal only valuable in combination with oxygen gas (as an oxide), and in this state it is generally and very abundantly presented in nature. Samples of it will be found in various places in the Exhibition, but they do not require any special notice. They are employed in bleaching to a large extent, are used as a coarse pigment for pottery and also in glazing pottery, and come into use in the manufacture of glass.

In the general sketch here given of the various metals, metalliferous ores, and other substances illustrated in the Exhibition, we have purposely avoided to mention IRON, which, as may be supposed, is neither forgotten nor unimportant. We propose, in another notice, to refer to this metal as the most truely valuable of all our metallic produce, and the source of all our wealth. We have chiefly desired to point out here, in a general way, the things best worthy of examination, with reference to each of the metals and for this purpose have preferred a short notice of the metals, in order to a methodical selection of the more remarkable specimens. Our readers, especially those from the manufacturing districts, who appreciate the importance of metals in reference to the arts, will, we are sure, not find fault with this attempt to give an idea of the uses of the metals, many of which are not employed in a metallic state, but whose essential properties are all connected with the existence of this important condition.

WOOLLEN AND MIXED FABRICS.

(SECOND NOTICE.)

IN resuming our notice of the important and extensive contributions classified under the above heads, we cannot do better than commence with the products of the West of England, a district so long famous for the manufacture of those fabrics in which it was the pride and delight of all well-to-do people in days gone by to attire themselves; broad cloth being such a distinctive feature in contradistinction to fustian, that the wearing of the one or the other has grown into a sort of proverbial type of the social position of the wearer. The cheap cloths of Yorkshire have broken down this distinction as a fact, but it still remains in theory as a line of demarcation, which, in spite of all the efforts of ultra-exclusiveness, the advancing spirit of the age is fast rubbing out; nor will the Great Exhibition be one of the least of those causes by which this equalising effect will be realised—not, however, an equality produced by the lowering of the few to the level of the many, but rather by a lifting up of the many towards the level of the few. "Broad cloths" rub against "fustian jackets;" and the generosity of the former in providing the means for the display of the ingenuity and industry of the latter, will, we trust, be well understood and acknowledged, to the end that each may benefit out of the superabundant wealth of the one, and energy of the other.

In those portions of the woollen products of the United Kingdom to which we are about to call attention, we have the two great extremes of the very finest products of skill, taste, and ingenuity—the result of the experience and traditionary skill of several generations of manufacturers, on the one hand, and the rude and unsophisticated manufacture of a neglected population on the other; in short, we have to examine West of England broad cloths, by the best makers in Britain, aided by all that modern chemical and mechanical science can do for the perfection of these manufactures; and the Irish friezes of the widow Murphy, of Ballysmulton, who, with the assistance of her family, shears her own sheep, dyes and spins her own yarn, and weaves her own cloth, sending it forth to the World's Fair as an example of a primitive manufacture, uninteresting, perhaps, to the high-class cloth merchant or manufacturer, but possessing many features of interest to the thoughtful observer, or the earnest advocate of national industry wherever it may be found, or in whatever form it may come.

In parallel case with this come the coarse home-made products of the Highlands of Scotland, laying equal claim to attention in an economic point of view; and though having but a small and insignificant commercial relation to the productions of the manufacturing districts of the West of Scotland, yet of no small importance to the workers in mountain side "shanty," as affording employment at times when it is most needed.

THE WEST OF ENGLAND.

The woollen district of the West of England extends into the counties of Gloucester, Somerset, and Wilts, and combines most of the advantages of a manufacturing with those of a rural locality. The centre may be said to be Stroud, which comprises within its own parochial limits a large proportion of the manufactories in which the woollen cloth trade is carried on. Unlike the great seats of industry in the north of England, there is no crowding together of mills and dwelling-houses—tall chimnies being the exception and no way the rule, and though, as a matter of course, the steam-engine has found its way here; yet the manufacturer has not altogether abandoned the use of that power which first induced the settlement of the woollen trade in the district of Stroud-water, with its streams, hills, and vallies.

Not unlike the towns of the West Riding of Yorkshire, certain localities are noted for the production of a given class of goods, although they all come under the same general category. Thus, Stroud produces the finest black, blue, and scarlet cloth in the world. Trowbridge is chiefly noted for the manufacture of trouserings and narrow goods of all sorts; Frome, and the district around, for the production of medleys and coloured cloths; and Tiverton, near Bath, is celebrated for the manufacture of beaver cloths; whilst Dorchester confines its attention to livery cloths and drab coatings. Then there are the productions of Bradford, (Wilts), Chippenham, Melksham, and Westbury; whilst within the borough of Stroud, eleven parishes are comprised, all dependent upon the woollen trade. With such a district as this to represent, it is to be regretted that the productions displayed on this occasion have been placed in so small a space, or, rather, that an attempt has been made to bring within so small a compass examples of the industry, skill, and enterprise of so important a locality. To have been fairly and fully represented, it ought most certainly to have had at least four times the amount of surface in which its products are now arranged, if, indeed, the latter term ought to be used; since the various articles are placed so close together as not to allow of separation by the eye when looking at them. Of course, the result is anything but satisfactory.

In our notice of the fine woollen cloths exhibited by the London houses, attention was directed to several examples of West of England manufacture, and, amongst the rest, to the black cloth exhibited by Messrs. Bull and Wilson as that to which they had awarded the gold medal offered by them. The manufacturer of that cloth, Mr. William Helme, of New Mills, Stroud (207), exhibits, as one of the representatives of the West of England trade, and displays cassimere vestings of a very beautiful character, as also cashmerettes of silk warp and woollen weft, of excellent fabric. The doeskins and cassimeres are also very excellent in quality of dye and finish. Messrs. S. S. Marling and Co., of Stroud, exhibit a good selection of superfine broadcloths, doeskins, and cassimeres, of admirable colour and finish; and Messrs. C. Hooper and Co. (310), also of Stroud, and Messrs. Playne (211), of Nailsworth, display some excellent examples—the former, in elastic trouserings and glove cloths; whilst the latter gives a series of illustrations of the process of the woollen cloth manufacture. Messrs. R. Davies and Sons, of Stonehouse Mills, Stroud (214), exhibit military cloths, of various kinds and colours, for uniforms, the scarlet being very brilliant; the hunting cloths of this house are also very excellent. A somewhat similar, though not so extensive, contribution from Mr. N. Partridge, of Trowbridge (212), and Mr. W. Pulling, of Painswick (213), goes still further to illustrate the productions of the West of England in army cloths. The latter also exhibits billiard cloths of a superior make and finish. The dyes of some of these examples are very beautiful: a green of a most brilliant hue will not fail to strike even the unobservant in such matters. Mr. T. Sampson, Lightfrill Mills, Stroud (215), displays a very excellent selection of shawls, of a tasteful and somewhat novel character; and the vicunna wool is here shown wrought into glove cloths of a very superior quality. Mr. Josiah Overbury, of Wotton-under-Edge, has a very admirable exposition of superfine Savony woollens, of the usual colours. The dye and finish of the blacks, rifles, and olives being first-rate in every respect; and these are fitly accompanied by examples of a similar class, by Messrs. Phillips, Smith, and Phillips, of Melksham, in which many, if not all, the excellences of the traditionary skill of this district are displayed.

In finishing this examination, we must repeat our regret that products of so much importance, and such sterling excellence of their kind, as those of the West of England, should not have had a larger amount of space, and one better suited to display the peculiar character of the goods. As it is, they are certainly not shown to advantage, apart from the fact that many of the exhibitors are distributed about the neighbourhood in a manner analogous to the scattered character of the localities of manufacture, and so far may be illustrative; but it would have been infinitely better had all been brought together in one group—a system which has prevailed in almost every other case. We, therefore, find fragmentary portions of the manufactures of Gloucestershire and Wiltshire, in addition to the group of exhibitors from Stroud. Thus, Messrs. J. Edmonds and Co., of Bradford, Wilts, exhibit waterproof woollen cloths. Mr. R. Chick, of Chard, Somersetshire, show specimens of power-loom drab cloth; and Messrs. Stanton and Son, of Dorchester, exhibit examples of drab milled waterproofed cloths of a good and serviceable character. These are all placed near to the general group; but Messrs. S. Salter and Co., of Trowbridge, who exhibit admirable specimens of fine woollen trouserings, are in an isolated position, though their goods can be well seen when once discovered, which is more than can be said of some of the Stroud examples. Mr. W. S. Wheeler, of Freshford, near Bath, and 4, Ludgate street, displays a very excellent assortment of fancy doeskins, of excellent dye and finish, as also examples of patent dress beavers, together with vestings. Messrs. T. and W. Carr, also of Bath, show specimens of cloth manufactured from German wool, dressed pieces of fine Australian wool, and summer coatings; and these, with the broad and narrow cloths made entirely of British wool, the produce of Wiltshire, manufactured and exhibited by Messrs. Fox and Co., of Devizes, complete the display of West of England fabrics, of which, as a whole, the respective manufacturers may be proud, as evidencing skill and experience of no mean order.

In addition to woollen cloths, another contribution from Stroud ought to be noticed as being connected with the manufactures of that place. Mr. W. Grist exhibits specimens of mattress wools, flock, and woollen mill-puffs, of a very superior character, prepared and purified by machinery.

OXFORD.

The woollen manufactures of Oxfordshire are represented by the valuable contributions of Mr. William Bliss, of Chipping Norton, and the houses of Messrs. John Early and Co., and Mr. Edward Early, of Witney. Mr. Bliss (270) makes a very remarkable display of kersey checks for winter horse-clothing, a department of the woollen trade established at Chipping Norton by the ancestors of the exhibitor for more than 100 years, and is interesting in a national point of view, as intimately connected with that love of horses and our national sports in which every Englishman prides himself. In addition to horse-clothing, Mr. Bliss displays some excellent specimens of the vicunna shawls already noticed as manufactured by him for Messrs. Barber, House, and Mead, together with beaver of the same material for ladies' cloaking. These, with Angola shawls, and railway wrappers, form the leading features of a highly creditable exposition.

Witney has long been celebrated for its blankets, and those exhibited by Mr. Edward Early (269) fully sustain its ancient reputation. These examples are all manufactured of selected materials, as specimens of the various English wools, their texture being very fine, and substance perfect. Those exhibited by Messrs. John Early and Co. (268) come more within the ordinary productions for the market, but are exceedingly good specimens of an indispensable article.

In connexion with this notice of blankets, it may be as well to mention those exhibited by Mr. Nicolls, of Cork (261). These are good examples of Irish manufacture, and are evidences of a revival in industrial pursuits, which, together with the very excellent and honest, though rough-looking friezes by the same exhibitor, deserve attention as an encouragement to a spirited effort on the part of those who seek to develop Irish resources, more particularly in their application to the remunerative employment of the people.

KENDAL

The woollens of Westmoreland have been noted for a period beyond any very certain record; and "the knaves in Kendal green," whom Shakspeare depicts as assaulting *Falstaff*, were doubtlessly supposed to have been customers of the woollen manufacturers of the period in which he wrote. In the hands of its exponents at this Exhibition, Kendal woollen loses nothing of its character, although the adaptation to modern purposes is most complete.

Messrs. J. Ireland and Co. make the largest display of railway travelling-rugs, horse-blankets, alpaca cloths and saddle cloths, together with other articles of coarse woollens, all of a most useful character, and in the manufacture of which excellence combined with considerable taste is shown. The lesser displays of Messrs. J. and W. Wilson and Mr. G. Gandy are also very noticeable for a tasteful selection of colours, and the patterns in which the articles are woven. The productions of these three houses, in conjunction with those of Mr. Bliss, of Chipping Norton, prove to what an extent the manufacture of the coarser kind of woollens for horse-clothing and other purposes is carried on in this country, and how much skill and taste may be displayed therein. Railway wrappers show the results of a trade which has only sprung up of late years, and one which has entirely developed itself out of the immediate requirements of the recent change in travelling; for though such articles are at all times useful, they have only arisen out of an universal want.

FLANNELS.

There are several excellent displays of this very useful and, in a climate like ours, indispensable article; the contributions of Messrs. Kelsale and Bartlemore, of Rochdale, being of a very superior character, particularly in the dyed and fancy-coloured specimens. There are Lancashire flannels, and imitation Welsh, together with swanskins, medium, and gauze. The wools are selected according to quality, of English, Saxony, and Australian, and altogether the contribution is a very tasteful one. In genuine Welsh flannels, Messrs. W. Lloyd and Co., of Newtown, Montgomeryshire, exhibit specimens of a very excellent class; and though these specimens do not possess the attractive

character to the eye of many of the articles around, yet, in an industrial and commercial point of view, it is of vast importance. There are also two other exhibitions from Lancashire, besides Messrs. Kelsall and Bartlemore. These are Messrs. J. Smith and Son, of Saddleworth, and Mr. J. Bamford, of Rochdale. The latter exhibits some beautiful examples of fine gauze flannel, and the former fine and superfine specimens, with silk warp, together with scarfs and shawls, for printing.

WELSH WOOLLENS.

In connexion with the Welsh flannels above quoted, it may be well to notice a series of examples of the primitive manufactures of the rural districts of Wales. These are contributed by Mrs. Elizabeth Mills, of Dolgelly, and others; but, though interesting as specimens of a peculiar class of goods, and creditable to the industry of the workers and the enterprise of those who employ them, as examples of manufacture, it would be very unfair to compare them with the highly finished goods around. But, for integrity of make, they are equal, often superior, to their more showy-looking neighbours.

IRISH WOOLLENS.

Kindred to the last-named goods are the Irish friezes, the manufacture of which has been so largely revived of late years; and, without seeking to give any undue prominence to the products of Irish industry in this department, it is but justice to those who have been seeking to employ a degraded and down-trodden peasantry in the manufacture of a material which appears to belong, as of right, to the emerald isle, to call attention to the varied and excellent quality of the goods displayed by the several exhibitors. To Mr. Nicolls' friezes we have already alluded in connexion with his blankets, and the peculiar circumstances under which Widow Murphy's specimens are produced have been also glanced at; but it is to those which come before us as representing the commercial aspect of the Irish woollen trade we now desire to allude.

Mr. Richard Allen, of Sackville-street, Dublin, has done much for the promotion and improvement of this class of manufacture, and is an enthusiastic supporter of every legitimate effort in this direction. He is the largest exhibitor, and certainly there are many points of excellence, even as compared with goods of more pretension. In short, they are at once excellent and comfortable-looking articles, as also are the sheep's grey and brown mixed friezes manufactured by Catherine Neill and Sons, of Tallaght, Dublin.

Mr. Luke Dillon, of Parliament-street, Dublin, exhibits rumswizzles, made of undyed foreign wool, and some excellent examples of the native friezes. Messrs. Willans, of Island-bridge, the present occupiers of the works once so famous as the locality whence Messrs. Henry sent forth their admirable printed calicoes, muslins, and jaconets, also display specimens of the kind of industry now pursued there, and show a good assortment of super-friezes, military tartans, and woollen shawl-yarns.

In vestings, Mr. Macdona, of Dublin, shows a selection of excellent embroideries, the taste displayed in which is chiefly owing to the Dublin School of Design; which, in contra-distinction to the schools in other places, with the exception of Belfast, appears to have been looked to by the manufacturers as a means of improvement in the very direction it was intended for—art as applied to manufactures.

MIXED FABRICS.

Under this head it is proposed to finish our review of the department under consideration, with the exception of shawls, to which it is proposed to direct special attention in connexion with the magnificent display made by the East India Company, who are certainly entitled to the thanks of every student of design, and every manufacturer in Europe, for the lessons afforded by the wonderful specimens they have brought, at so much cost and trouble, to grace this gathering of the nations. We hope, then, to improve the opportunity thus afforded, and institute a comparison between that which our manufacturers attempt to do, and that which is done by the Eastern weavers in their primitive looms; and most certainly, a longer or more interminable game at "follow my leader" has never been played than is here shown to have been the case with regard to the very highest class of textile fabrics in which the manufacturing communities of Europe have been engaged for some sixty or eighty years.

Our present purpose is chiefly with dress pieces; but, as there are two exhibitors of a distinct class of goods for furnitures, these are noticed first.

UTRECHT VELVETS.

Messrs. R. and T. Baughan, of Banbury, exhibit specimens of stamped Utrecht velvets and livery plushes of a good character, as also printed mohair table-covers, and other articles in imitation of the Chinese. The colours are generally good as regards brilliancy, though not always well selected in point of artistic effect; but, as a whole, the display is a very creditable one. In the same department, but more exclusively devoted to the purposes of the upholsterer, is the exposition of Messrs. Bennett and Co., of Manchester, and Newgate-street, City. This house has long stood well as the manufacturers of Utrecht velvets for decorative purposes, carriage linings, &c., and the examples now shown sustain that reputation. The arrangement, too, of the whole is decorative and effective, except that the stamped and printed table-cover placed in the centre as a foil to the brilliant colours around is in the worst possible taste, both as regards ornamentation and colour.

DARLINGTON.

There is but one exhibitor in the department of Mixed Fabrics from this town, but the examples displayed are very excellent of their kind. These are contributed by the well-known firm of Messrs. H. Pease and Co., and consist of Coburg cloths—in single and double twill, excellent in make, and very even in colour and texture. They also exhibit yarns of various qualities and numbers, spun from Saxony and Australian wool. The summer coatings, too, may be instanced as of excellent make, whilst the dye of the green and blue Coburgs is noticeable for brilliancy and clearness.

MANCHESTER.

In mixed fabrics there are only two exhibitors from Manchester, and one of these is altogether misplaced, the goods being arranged with the cottons.

The contribution of Messrs. Kay, Richardson and Wro (186) is of a very excellent character, alike highly creditable to their taste and skill. It consists of a great variety of chiné goods, in which the adaptation of design to material has been well cared for, and the combinations skilfully made. These consist of silk, linen, cotton, and worsted, the warps being printed in a very superior manner. Indeed, there are no similar goods in the Exhibition, which at once combine so much novelty in mixture, together with a result so successful.

Messrs. H. Walmesley, of Failsworth, near Manchester (51, Class 11), whose contribution, as already mentioned, has been placed with cottons near to the Carriage Court, exhibits very admirable specimens of their class in power-loom mixtures for dress goods. The watered effects are very excellent, and the figures well introduced, the economic character of the production by means of steam power being a striking feature. This exhibitor also displays a singular effort in commemoration of the Exhibition, but it is to be regretted that the means and money expended thereon had not been better employed. The subject is a table-cover, the border of which represents a procession of all nations bringing their offerings to the Great Exhibition, whilst in the centre is a perspective representation of the Building, with sky and foreground! To the student of textile design, who considers its real principles, the effect of this specimen of architectural weaving is ludicrous in the extreme; and it is, we repeat, very sincerely to be regretted that so large a sum of money, probably £2000, should have been expended in getting up such a production, when that sum, expended with due taste and judgment, would have been amply sufficient to have worked out three or four elaborate designs, which might have done honour to the spirit and energy of the manufacturer; and there can be no better proof of this than the very excellent examples to which we have already alluded, as forming the true features of his display.

GALASHEILS.

The contributions from this manufacturing district of the north consist of tartans, shawls, and tweeds. It is more especially to the latter that attention is now directed, for, as already stated, the two former classes of goods are intended to be specially considered. The tweeds consist chiefly of trouserings and a few vestings; and the exhibitors are Messrs. R. and T. Dixon, Sanderson and Sibbald, J. and W. Cochrane, Inglis and Brown, and others, and are generally of average excellence, not calling for any special exemplification; but, as representing the manufactures of an important section of northern industry, they are deserving of consideration.

The other contributors from Scotland, of this class of goods, are Messrs. J. Crombie and Co., of Aberdeen, who exhibit Scotch tweeds in various qualities, Messrs. Byers and Son, of Langholm, and Messrs. Bowman and Son, of the same place, each of whom show examples of shepherd tweeds, railway plaids, and other articles, made from Scotch and Australian wool. The trouserings of Messrs. J. and H. Brown and Co., of Ettrick Mills, Selkirk, are, however, the most varied and novel in mixtures and styles, and present many tasteful features, not commonly found in articles of this class. The same may be said of those of Messrs. Dickson and Laings, of Hawick.

IRISH POPLINS.—DUBLIN.

There are few contributions in the Exhibition which, as a whole, will strike the visitor more than the very admirable display of Irish taste and industry which the poplin manufacturers of Dublin have made on this great occasion; inasmuch as it is one of which they have every right to be proud, and which will do more to show that, with proper care and attention, a greater degree of development may be given to Irish manufactures than even some of the best and truest friends of that portion of the United Kingdom could have hoped for.

The increased estimation in which the class of goods here displayed has been held of late years, has given a great stimulus to the manufacture of, probably, the most elegant material for ladies' dresses which the skill and industry of modern times has produced; and the traditionary excellence of the products of those descendants of the victims of the revocation of the edict of Nantes, who were permitted to settle in Dublin, as well as at Spitalfields and Norwich, has been revived on this occasion with all its force, aided as it is by modern means and appliances in the Jacquard loom, and the various mixtures of materials which the industrial activity of the age can now supply so readily.

Messrs. Pim Brothers and Co., of Dublin, worthily sustain their reputation for the production of beautiful and appropriate designs in a material so well calculated to show, by the contrast of the parts, the skill of the artist and the weaver; and in the brocaded poplins the breadth of effect in the ornaments and the fitness of purpose are worthy of all praise. The colours, too, are selected with taste and judgment, and the brilliancy of the contrasts are enhanced by the introduction of the metallic threads in gold and silver. Nor do these remarks apply with less force to the productions of Messrs. R. Atkinson and Co., of College-green, Dublin; for though the style of pattern is generally less bold than that of Messrs. Pim, yet it is not less effective for the purpose, and the value of the brocading machine at work under the gallery, near to the display under consideration, is shown in a variety of tissues of great richness and beauty. The introduction of so many colourings in the sprigged effects and in the bouquets is a marked feature of these specimens. The elegant scarfs manufactured by Messrs. Atkinson are also worthy of notice, the borders being so well and distinctly marked, though woven in the same piece with the body of the scarf.

Mr. Reynolds, of Grafton-street, Dublin, shows some very elegant examples in imperial blue and gold tissues, as also in white and gold. There is, perhaps, less splendour about this display than in those just noticed, but the result is not less satisfactory; and, in addition to the dress goods, we have some excellent specimens of figured furniture, brocaded tabanits of very excellent quality and generally good design. The plain cord, checked, and tartan poplins are also worthy of special notice.

Those manufactured by Mr. Edward Jones, of St. Andrew-street, Dublin, and exhibited by Mr. Richard Allen, are also of excellent make, though of less pretension in appearance. "The last," but by no means "the least" of this very satisfactory exposition of Irish skill is the display of Messrs. W. Fry and Co., of Dublin, in silk furniture damasks of a superior class, together with poplins, plaid tartans, and coach laces. The silk furnitures are bold and effective in pattern, and generally well selected in design. As specimens of weaving and colour they are above the average. The brocaded poplins, too, are elegant examples of their class. In coach lace this house stands high, and the productions here displayed prove that it deserves to do so.

In front of Messrs. Fry's stall stands the Jacquard brocading machine, at which a weaver is constantly at work upon a tissue of more than ordinary richness of effect; and, as the loom is a very handsome one—the framework being of polished mahogany, and the mountings to match—it is generally surrounded by a crowd of visitors, anxious to see into the mysteries of its operations, though we fear they go away more puzzled than before, after looking at the maze of strings presented to view in the orderly disorder before them. Great credit is due to Messrs. R. Atkinson and Co. for their spirit and energy in sending this loom and its intelligent worker to represent so important a branch of Irish industry.

Having thus gone through the great group of woollen and mixed fabrics as located in the court and front of the Central Avenue, in order to finish the classified arrangement it is essential we should ascend to the South-west Transept Gallery, where the Norwich and London goods of this class are displayed, the whole being shown together in one large glass case in a series of compartments. Many of the articles displayed in this arrangement belong to the department of clothing, in the midst of which the case is placed. The noticeable articles within our present scope are those exhibited by Messrs. Salomons and Sons, of Old Change (305). These consist of some excellent fabrics in good taste as regards colours. The dressing-gown fabrics exhibited by Messrs. Welsh, Margetson, and Co. (304) also claim attention. These latter are very effective in pattern and elegant in general appearance.

NORWICH.

Norwich has long been famous for its poplins, and there can be little doubt that the production of these fabrics, both in that city and in Dublin, arose out of the experience and skill brought by those Protestant emigrants whom the evil policy of Louis XIV. drove into exile. The bombazins and crapes of Norwich, too, have been long held in high repute; and, latterly, shawls and spun silk goods have been added to the number of its products.

The poplins shown by Messrs. Clabburn and Son are of a very high character. One specimen is especially admirable for its beauty and softness of texture, and the perfection of the satin face in the brocaded figure. The design, too, is free and appropriate. The chintzes are clear and distinct in pattern, the design being well made out—a point by no means always achieved, even to the necessary degree of intelligibility, in this kind of fabric. The dye and finish of Messrs. Clabburn's goods are excellent.

Messrs. Edward Willett, nephew, and Co. (310) make a pleasing and satisfactory display of plain poplins, brocades, and chinés; and Messrs. C. and F. Bolingbroke (311) exhibit plain and watered examples of an excellent character. One specimen, a brilliant blue, is particularly noticeable for its richness and clearness of tint. The specimens of black paramattas, a fabric for which Norwich is now noted, exhibited by Messrs. Middleton and Ainsworth (312), are capital examples of their class. These paramattas are a mixture composed of silk and worsted, the warp being of the former, and the weft of the latter, and the fabric is a very favourite one. The large pattern brocaded poplins, exhibited by this house are not so satisfactory as the effort deserved to be. The effect is marred by the introduction of too much detail, and the contrasts of form and colour are not good. More simplicity of treatment would have succeeded better.

Messrs. E. and P. Hinde's (313) display of poplins is not in good taste. The bouquets are too heavy in form; but the beauty of the figured silk barèges compensates in some measure for this, inasmuch as we have rarely seen a more delicate or elegant tissue—one, indeed, which would be suited to Titania herself, the effect is so transparent and fairy-like. As this is comparatively a new production, we may anticipate great improvements therein. Messrs. Fowler, Campion, and Co. (309) exhibit paramattas, stripes, and challis, which are elegant in effect, though very simple in design. The display of this house is chiefly in shawls, and arranged in another department.

Our notice of the British productions in woollens and mixed fabrics has extended to this length from the very excellent character of the exposition when examined in detail; and it is quite impossible to understand this excellence except by careful and systematic examination, when we have no hesitation in saying that the position of the important trades represented is immediately enhanced ten-fold; and it is no boast to say, that such a collection of excellent productions as that displayed in the British side of the Transept of the Crystal Palace was never brought together before.

There is one group, however, to which we have still to refer, and have reserved until the last, as a suitable finish to our review.

THE PRINCE'S CACHMERES.

This contribution of his Royal Highness Prince Albert has been an object of great interest to all interested in the woollen and worsted manufactures of this country, and not the less so because it indicates the eminent practicality of the mind of the Royal contributor whose interest in the progress of industry never flags. The specimens of manufacture we are about to notice are arranged in a tasteful glass case, appropriately placed in the Central Avenue, in front of the department to which they belong, as a trophy of that class of articles. They consist of two shawls, two dress pieces, and a specimen of coarse woollen cloth manufactured from the wool of the Cachmere goats kept by his Royal Highness Prince Albert in Windsor Park; and the experiment has been made at his suggestion, and for him, by Messrs. T. Gregory Brothers, of Shelf, near Halifax, and Messrs. John Haley and Son, of Bromley, near Leeds.

In the raw state, the Cachmere goat's wool is very peculiar in its character, consisting, as it does, of two distinct materials. These are known as wool and kemp. The wool is soft, beautifully rich, superior even to the finest Continental lamb's wool, and is divisible into distinct qualities. The kemp is a coarse, rough-looking hair, and is constantly avoided by the manufacturer, as the smallest admixture of it with the wool gives the fabric an appearance of coarseness, through its harshness. Intermingled as these two wools are with each other when shorn from the goat, it becomes a matter of great difficulty to separate the one from the other, and, as there is no mechanical invention for doing this, it has to be effected by hand, and this is done fibre by fibre, a difficult and tedious process. To have done this in the ordinary course of trade would have entailed an expense of no ordinary character; but it was no sooner known in the woollen districts of Yorkshire, that the Prince desired that an experiment in the manufacture of the wool from his goats should be made, than there were hundreds of volunteers to do the preliminary work of separating the fine from the coarse hairs; and from the highest to the lowest in station, all set about their work earnestly, under the direction of Messrs. Haley and Messrs. Gregory; and the only remuneration given, or required, was an elegantly engraved certificate, with a view of the Crystal Palace as an ornament, stating that the holder had been employed in forwarding the experiment of the Prince in the manufacture of Cachmere wool; and it is a singular fact, that for some months upwards of 1000 persons of all grades were so employed, according as their leisure enabled them to devote attention to this "labour of love."

In the manufacture of the shawls considerable difficulty arose, from the impossibility of again dividing the small quantity of wool produced in order to make warp and weft yarns, so that the fabric is not so fine as might be expected, or indeed as appears in the dress goods where the warp is composed of silk. The white shawl, however, has a very delicate appearance in colour, and the extreme fineness of material is easily seen on examination. The dress goods will attract most attention from the lady visitors; but then it must be remembered that they are only partly composed of the Cachmere wool, the warp being of silk. The white dress is very elegant in its appearance, the pattern being of the wild strawberry, prettily put together to form a "trail." The larger pattern of the coloured dress is not so good, though the effect is broad, for it appears to have been elongated in the weaving. The dresses are the production of Messrs. Gregory, and the shawls are manufactured by Messrs. Haley, who have also wrought up the "kemp" into the specimen of coarse woollen cloth placed in the centre of the display; and as this latter is produced from a material hitherto considered worthless, and by that means making use of the whole produce of the goat, these gentlemen are deserving of all praise for the manner in which they have seconded the efforts of the Prince in this matter, through the medium of Mr. Pollock, of Leeds, who interested himself largely in the experiment.

How far the manufacture of Cachmere wool may prove of value in an economic point of view, remains to be seen; but the present experiment is not the less interesting because the ultra-utilitarian may consider it will not "pay." Under any circumstances, the greatest credit is due to the Prince for promoting the present attempt; and had it done nothing more than prove the earnest feelings entertained towards him by those engaged in the preliminary labour of assorting the wool, it would have been a source of gratification to every loyal subject.

EXHIBITION NOTES.—No. 1.

AMONG the more important considerations connected with the Exhibition are the disposal of the Crystal Palace itself—its retention in Hyde Park, or its transfer to another site—its possible modifications—its temporary character—or its establishment as a permanent Institution for various national and universal purposes.

Why should we not have a permanent home for the reception and display of the industrial products, the mechanical inventions, the new discoveries and improvements, and, in short, of all that could mark the advance of the country in civilisation, and the progress of mankind? At stated periods, say every fifth year, the wide world should again be invited to repeat the festival of 1851, and renew the pacific Jubilee. How marvellously instructive such periods of comparison would be, it is needless to anticipate; and young generations, as they sprang up, would have opportunities similar to those of their forefathers, for the acquisition of knowledge in the most delightful school, which held a concentration of the materials and sources of intelligence, otherwise scattered abroad over the whole face of the earth. To our minds every renewal of this scene would be attended with a great increase of usefulness and benefit. One swallow does not make a summer, nor is one peaceful congress sufficient to harmonise and consolidate the good-will, generous sympathies, and liberal intercourse of nations. It is but the beginning of the end; and so auspiciously and gloriously commenced, it is our duty to employ every means to perpetuate the beginning and render the end worthy of the beginning.

But, besides this one mighty object, we would turn our Crystal Palace to other and most valuable purposes.

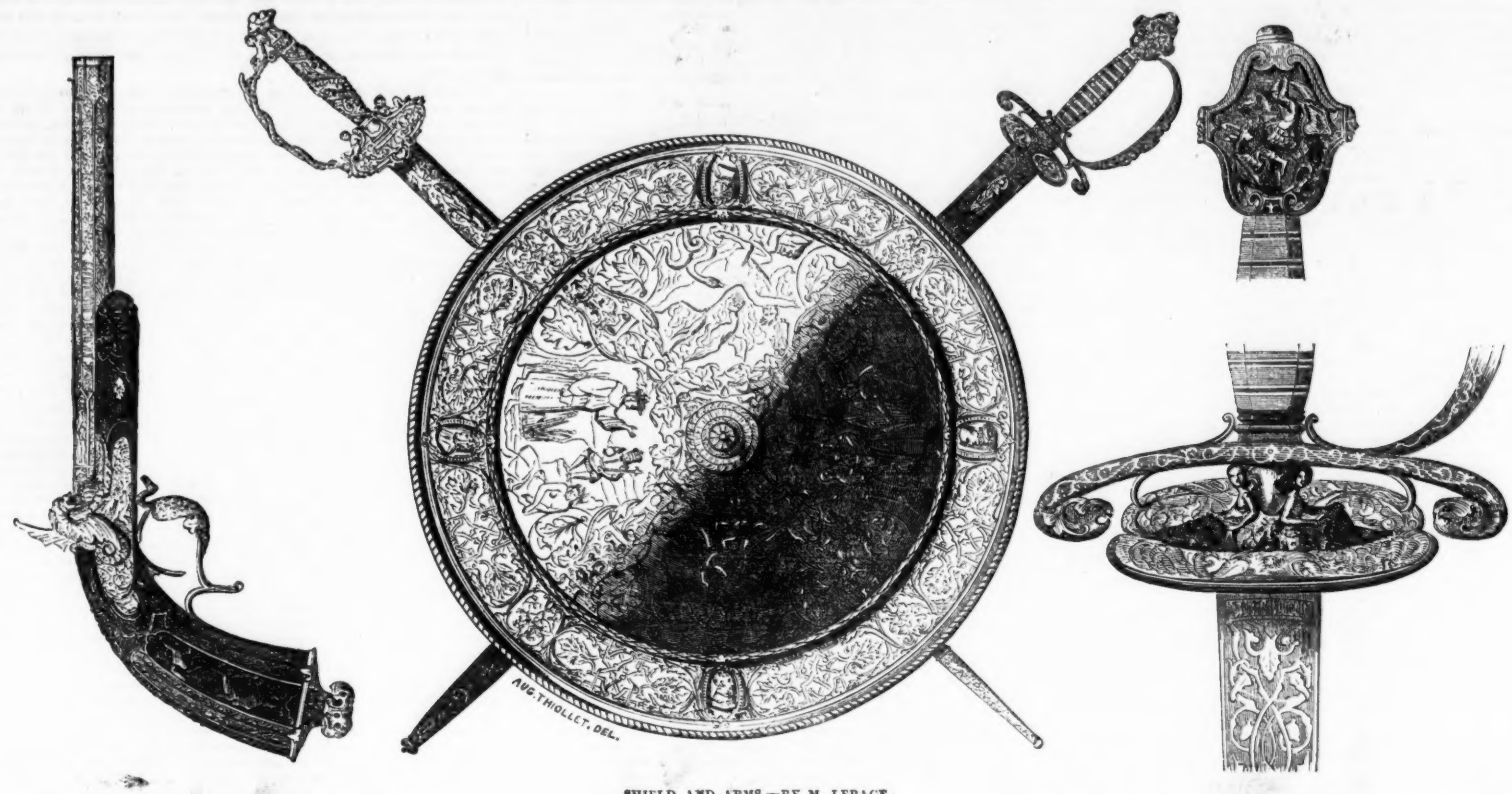
There should be a winter garden for the culture and exhibition of flowers and shrubs—not of the very delicate exotics so difficult to tend and rear, but of species sufficiently acclimatised to withstand our variable seasons. This branch would support itself, and furnish at the same time re-creation to the inhabitants of London, and supplies of a beautiful flora to the country.

A healthful promenade, sheltered during all weathers, and made fashionable by Royal and aristocratic patronage, would be another feature of welcome luxury and benefit. Galleries should be constructed in suitable style for the exhibition of sculpture, paintings, and other works of art; and halls for multitudinous meetings of all kinds, including festivities, balls, &c. London has grown to above two millions of population, and requires to be accommodated on a far larger scale than heretofore.

Compartments, as in the present Crystal Palace, should be maintained for collections of machinery, and manufactures and products, such as are seen there, some of course being omitted, and yet amply compensated by the additions which we have advised, and which, under one roof, would be conspicuously and admirably adapted to promote the enjoyments and welfare of our vast capital, the prosperity of England, and the happiness of the world. Every epoch would be a register or record of advancement, and a starting-point whence to proceed in the race of friendly competition for the glorious prize, who should do most to better the condition of their fellow-creatures throughout the habitable globe.

Gigantic as such a scheme would be, let it not be assumed, even in relation to commercial expenditure and return, that it would in price be an experiment too costly to warrant its being tried. The Crystal Palace will not only pay its expenses, but leave a very considerable fund to be applied to any congenial object. And these are not merely speculative and unsupported opinions; but the opinions of many who have devoted much attention to the subject; and as such, we trust we shall not be deemed unauthorised in repeating them for the serious consideration of "all whom it may concern" and who are possessed of influence in deciding so truly important a question.

Turning our attention to minor matters, we cannot omit to notice that there has been a departure from the rules laid down by the Commissioners, which, in a multitude of cases, vitiates the integrity of the Exhibition. These rules it might, perhaps, be impossible to have borne out; but we believe they might be better guarded, and the result would have been that we should not have witnessed so many false claims to inventions by parties who never invented anything; and so many pretensions to manufactures which have been executed by other people, and not by those whose names are attached to them. The Catalogue is crowded with such fallacies, alike injurious to real ingenuity and desert, and contributing to deck a wilderness of daws in peacock plumes. The amount of this evil is too copious for analysis; and the patience of Job and the wisdom of Solomon would not suffice to apply the test of the storied



SHIELD AND ARMS.—BY M. LEPAGE.

Palace of Truth to the vast treasures heaped together in the Crysta Palace.

The combination of analogous objects is one of the chief puzzles and difficulties in the Exhibition. Take any one class for example—say jewellery, hair, artificial flowere, feathers, botanical produce, textile fabrics, or works in metals, and you find them dispersed through miles of space, and in compartments belonging to every division and country. You are thus confined, in a great degree, to localities, and unable, without much toil and travel, to arrive at generalities, and close comparison or contrast. In such a future institution as we have shadowed forth, there might be many novel arrangements by which articles of a similar kind from every part of the world could be disposed in juxta-position, and afford great facilities for the proper understanding of their relative and various merits; which, if united with a criterion of price, would be of infinite consequence to their due appreciation and choice. In a first essay, such a classification could not be effected, and it is only surprising how much has been done.

Two remarkable things, as regards the past origin and future utility of the Exhibition, demand grave consideration: first, the bringing together a collection of this prodigious mass of valuable properties; and, secondly, what effect their "exposition" is likely to produce in the world.

Upon the *first*, it may be stated that no nation or capital are in a condition to undertake such a design except England and London. The vast amount of value here entrusted to our safe keeping is the highest acknowledgment ever paid to the genius of national order and stability. Millions of money's worth are almost carelessly scattered throughout the interminable windings of a huge glass house, and no one fears a loss. From the Mountain of Light, which to most people, whose imaginations had been inspired by description, appears little more than a mole-hill of rock crystal, to the three calf-skins of Hanover, or yet smaller deer, there is no want of confidence in a country, be it remembered, without passports, alien acts, or secret government police. Where else, we would ask, could this reliance be reposed? We have great reason to be proud of the distinction: it is gratifying now, and bodes auspiciously for the future.

With regard to the effects likely to result from this congress, it branches into several speculative opinions of immense interest, to which justice could not be done in a passing newspaper essay. To what improvements in manufactures and mechanical works will it lead? How soon, or how late, or where will they be developed? How far will it spread better understood principles of taste? In what realms will it sow new seed of active rivalry and successful competition? Whom will it benefit, whom injure, and in what ways? At present the London shopocracy are idle, and without demand for their goods, especially of a refined and luxurious kind. What is to compensate them for a lost season, in which none but victuallers and retailers of the smaller order of necessities reap a harvest? Will the creation of foreign demand on the commerce of England arise to re-invigorate the system; or will English demand, on the contrary, be diverted from home to foreign produce? These are very serious questions—questions which only time can solve. Meanwhile, it seems to be demonstrable that the Exhibition of thousands of the richest and most beautiful articles which human ingenuity and lavish cost could form, must have a striking influence from the very top to the bottom of the classes of production to which they severally belong. We may look at a tissue which nobody could wear; at a carriage in which nobody would ride; at a fireplace which no servant could clean if it were ever guilty of a fire; at a chair in which nobody could sit; at a musical instrument not fit for one in fifty thousand to play; at endless inventions incapable of the duties imputed to them; but yet every one of these may be suggestive of useful improvement. The humblest of artisans (and there are multitudes of them gifted with extraordinary natural talent as well as practical experience) will be stimulated to more skilful exercise of their duties and craft; and it may be next year, or three, five, or more years hence, but we may depend upon it we shall witness the fruits of this causation ripen in a thousand different ways, and in many a quarter of the globe; let us hope, not the least in the empire and colonies of Great Britain!

MARTINUS SCRIBLERUS.

SWORD HANDLE.—BY DELACOUR.

SWORD HANDLE. DELACOUR.

The sword handle, richly ornamented bronze and or moulu, by M. Delacour, is a handsome specimen of decorative workmanship.

SHIELD AND ARMS.

M. Monitier Lepage exhibits some remarkably fine armour and arms, ornamented in the richest manner with reliefs, done by the process of punching, known as *répoussé* workmanship, as well as by embossing, chasing, and engraving, of which we have engraved a few specimens.

GROUP OF GLASS. BY GREEN.

The samples of glass exhibited by Mr. Green display a good deal of variety and of improved taste, in the shapes and ornamentation of the vessels for the table. Many of them are beautifully engraved.

GLASS.—BY MR. GREEN, OF ST. JAMES'-STREET.

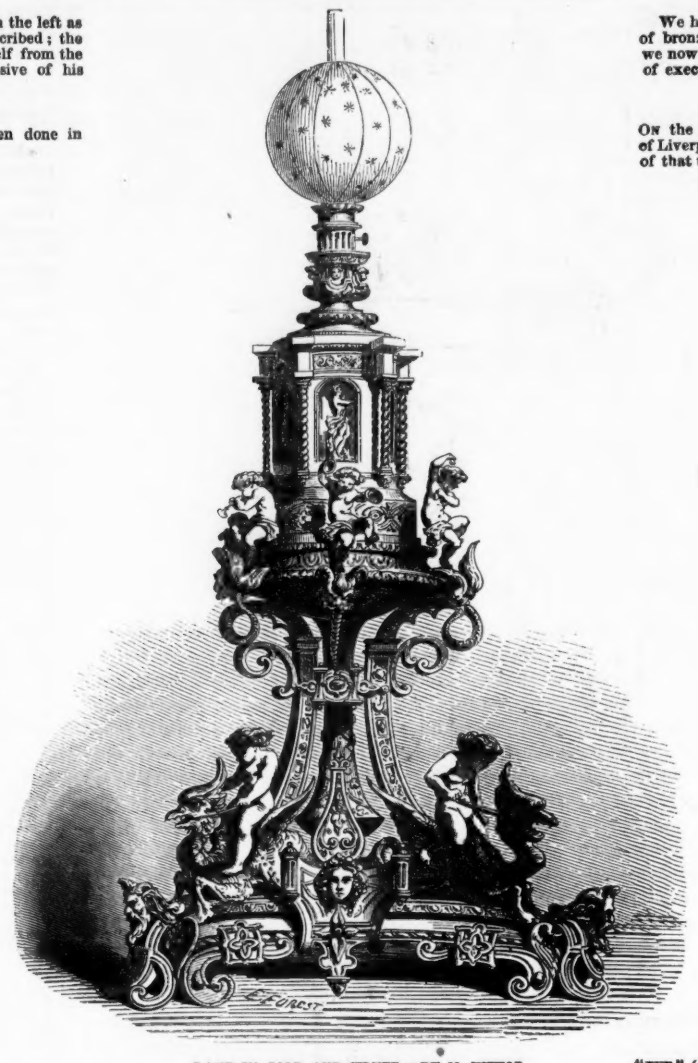
"THE WANDERER." BY J. H. FOLEY.

This pretty little subject stands in the Sculpture Room, on the left as you enter. The story, or rather the situation, is well described; the "Wanderer," wrapping his cloak about him to protect himself from the pitiless blast, turns an upward look to heaven, expressive of his miserable and forlorn position. It is nicely executed.

"EVE." BY J. BELL.

One of Mr. Bell's favourite productions, which has been done in electro-bronze by Elkington.

"THE WANDERER."—BY J. H. FOLEY.



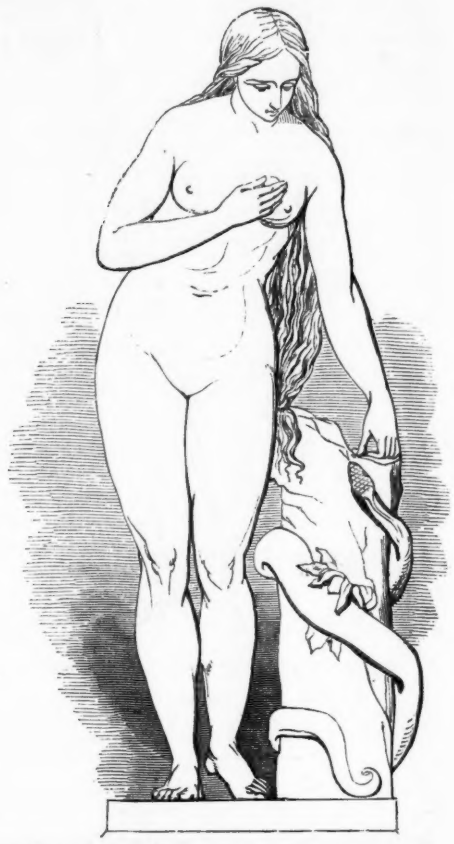
LAMP IN GOLD AND SILVER.—BY M. VITTOZ.

LAMP. VITTOZ.

We have already made honourable mention of the magnificent display of bronzes produced by M. Vittoz. The lamp in gold and silver, which we now engrave, is a composition of considerable beauty; and the finish of execution is perfect.

THE GREAT LIVERPOOL MODEL.

On the 3rd ultimo we gave the reasons for constructing the great Mode of Liverpool, executed under the direction of Mr. Grantham, civil engineer, of that town. We may now add a few interesting particulars with regard



"EVE" (JOHN BELL), IN ELECTRO BRONZE.—BY MESSRS. ELKINGTON.

to the objects represented in the model. Only about one-third of the houses and one-third of the river Mersey are included; and a large extent of the property under the Dock Trustees, lying to the north of the district represented, is not yet formed. The sea-wall is in progress, and the whole, with the unfinished part, as shewn in the model, will be prepared for new docks when required.

Preparations are now being made for the formation of two docks in the middle of the whole range, which, when completed, will effect a thorough communication from one end of the docks to the other.

It will astonish our readers to know, that when the works now in progress shall be completed, the large sum of *eleven millions* sterling will have been expended in carrying out the finest and most complete docks in the world: nearly half of this enormous amount has been paid out of profits, the remainder being a charge on the estate.

It is much to be regretted that the numerous figures of men and women, which were prepared to have been dotted about in the various streets, and which would have given a life-like appearance to the model, have been omitted. This was owing to the unfinished state of that part of the roof of the Crystal Palace immediately above the site marked out for the model, which could not be fixed in its appointed place in time to get the whole completed as designed, ready for the opening of the Exhibition on the 1st of May.

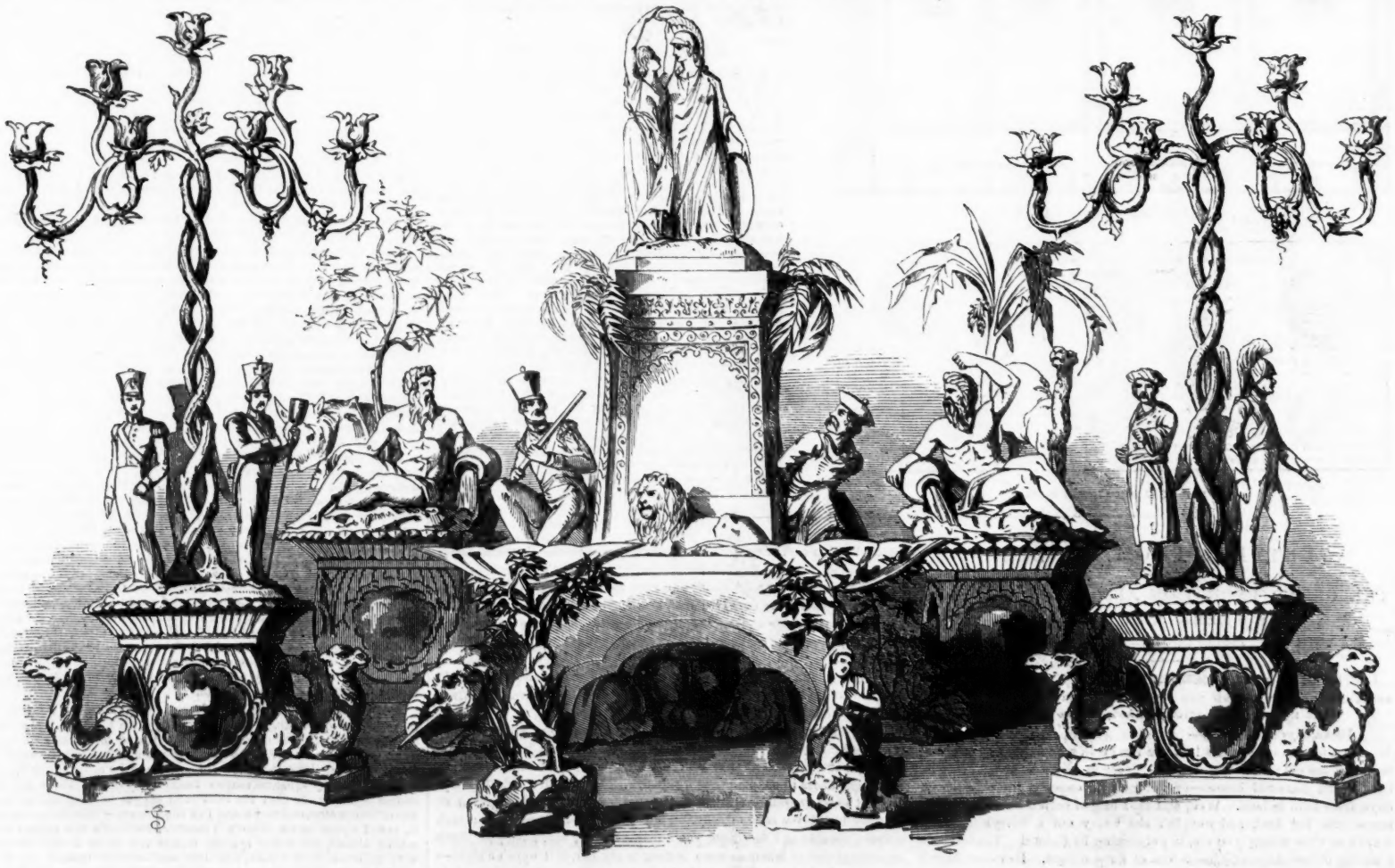
THE ELLENBOROUGH PLATE. HUNT AND ROSKELL.

Amongst the magnificent works in silver exhibited by the house of Hunt and Roskell, the service of plate (or portions of one) presented to the Earl of Ellenborough, by his Lordship's friends in India, occupies a prominent position, and will command attention, on account not only of the beauty of the compositions themselves, but the historical events which they commemorate. The principal object is an ornament for the centre of the table, of massive monumental character, surmounted by two figures, typifying Asia crowning Britannia. The *bassi relievi* present four subjects—the ratification of the treaty of Nankin, and views of Calcutta, Cabul, and Canton. On the base are figures of Affghan and Chinese captives, and of a British sepoy. The architecture is of Indian character, embellished with palms, and supported by recumbent elephants.

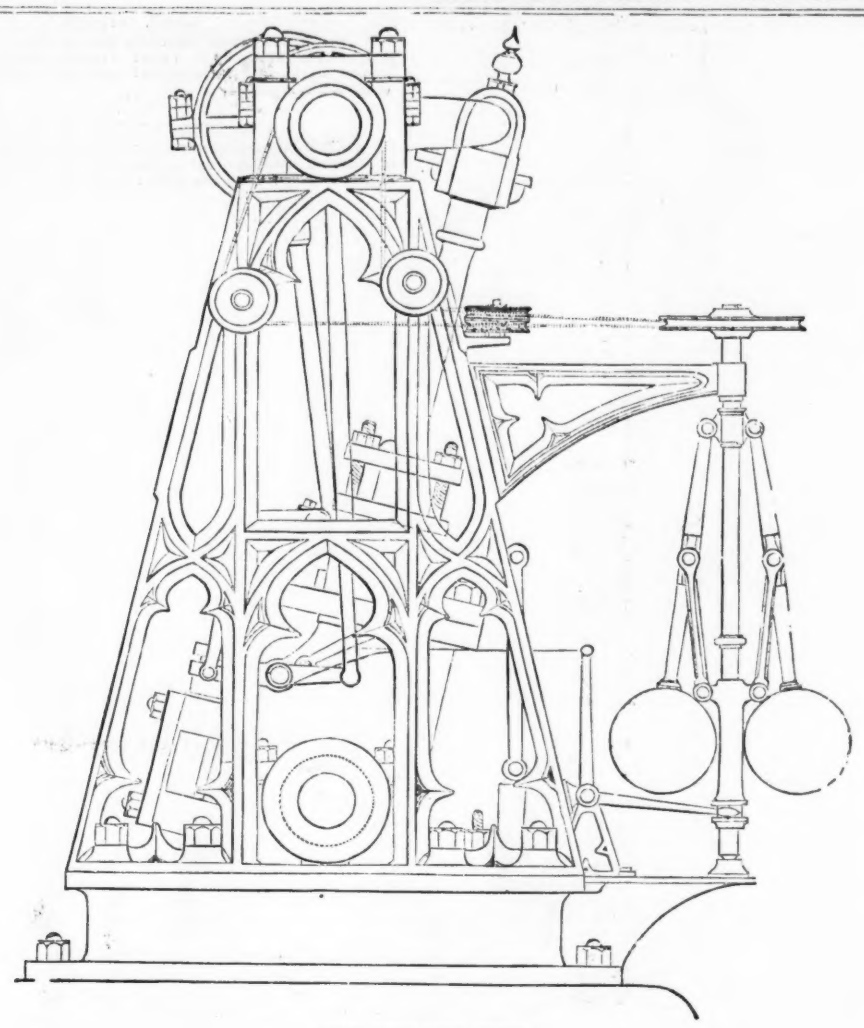
DODDS' PORTABLE FOUR-HORSE ENGINE.

The great object of all manufacturers of steam-engines of the present day is to reduce the parts to as small a number as possible, to make those parts as simple as possible, and so to place them that they may be readily got at for repairs when necessary. Messrs. Dodds and Son, of Rotherham, have, we think, accomplished such object in the "Four-horse Portable Engine," which they exhibit in Class 6 of the Great Exhibition.

The boiler, which is of a cylindrical form, extends from end to end o the engine, and the strengthening stays which are required in the cas



GROUP OF PLATE PRESENTED TO LORD ELLENBOROUGH.—EXHIBITED BY HUNT AND ROSKELL.



POPE'S OSCILLATING ENGINE.

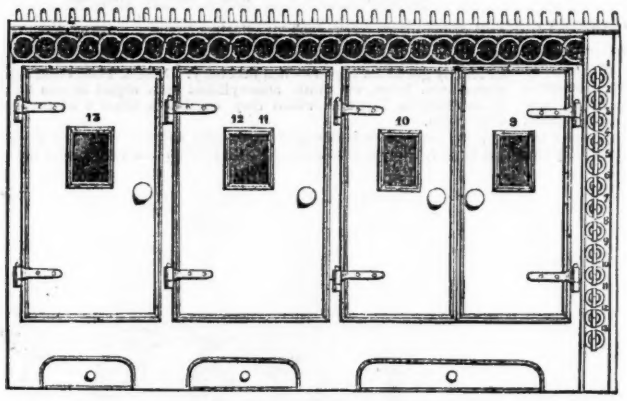
of the square fire-box are dispensed with, notwithstanding which an additional area of 16 superficial feet is obtained.

This engine works expansively and is direct in its action; the valve-rod is worked by a return crank; and all the steam-pipes being enclosed within the boiler, surface condensation is prevented, except as regards the cylinder and boiler, both of which, however, may be clothed to obtain the full advantage of the steam.

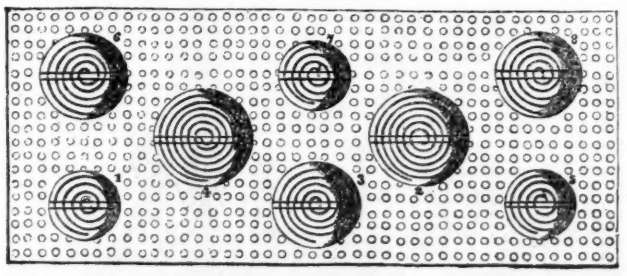
POPE'S OSCILLATING ENGINE.

Oscillating engines are visible in all parts of the "Machinery in Motion" division of the Great Exhibition, the power of each being fully tested by a certain amount of daily work required to be done for other exhibitors.

One of the lightest and most elegant is that by Messrs. Pope and Son, which is situate very near to Appold's pump, and Crawhall's vertical rope-making machine—two very conspicuous objects. While many of the steam-engines at work in the same division are attended with a ceaseless noise, that under consideration is entirely noiseless. The whole machine stands on an iron foot-plate 27¼ inches long by 25½ inches wide, embedded into a pedestal of stone 9 inches thick. The diameter of the cylinder is 6½ inches, and the length of stroke 14 inches, the fly-wheel being 78 inches in diameter. The engine makes 70 revolutions per minute. The several parts, including the feed-pump, throttle-valve, and governor, are all contained within a neat Gothic frame; and the power of the engine is calculated at four horses.



KING'S GAS COOKING RANGE.



TOP OF GAS COOKING RANGE.

KING'S GAS COOKING RANGE.

Mr. Strode exhibits a gas cooking range, in the side aisle south of the western part of the Nave, which is constructed on a plan peculiar to the town of Liverpool. It was designed by Mr. King, chief engineer of the gas works of that town. It is divided into three compartments of different sizes for roasting and baking, being furnished with a damper to regulate the flow of air through them. The burner is arranged inside the oven, at bottom, around the sides, back, and front, with a dripping-pan occupying the centre. The meat is hooked on to a sliding frame or carriage, which, when pushed in, allows it to be suspended surrounded by the gas. On the top of the range are eight spiral burners, in round well-holes, for boiling, stewing, frying, &c., any of which operations can be done with the same facility as on a hot plate or over a charcoal fire. The meat roasted by this range, owing to the regularity and certainty of the operation, is of a more nutritive character than that cooked by the ordinary process, as more of the juices of the meat are retained, which is ascertained by the comparatively small loss of weight after cooking. By the operation of broiling, twelve chops can be cooked at once, at a cost of not more than *twopence* per hour for gas, which gives at the rate of sixty chops at an outlay of only twopence for gas. Comfort and cleanliness to the cook, and economy to the consumer, are among the qualifications of this useful invention. The gas is lighted with a gas-torch, or portable jet of iron pipe, attached to a flexible pipe.

LETTERS FROM LONDON

ON

THE GREAT EXHIBITION AND OTHER MATTERS,

BY PELEG E. WHEELER,

WITH AN INTRODUCTION—BY BAYLE BERNARD.

LETTER III.—TO MR. ENOCH PEABODY, SAW-MILLS, PENOBSCOT.

ENGLAND—THE PARTING AND THE VOYAGE.—THE OLD WORLD AND THE NEW. THE MAJOR'S SPECULATIONS ON NATURE AND HUMANITY.

DEAR UNCLE ENOCH,—

HURRAH for the old country! Here I'm on it, sure as snakes, safe and sound on the old shore—a sorter babe, to speak poetical, that's crawl'd back to the maternal bosom—or not crawl'd exactly, jump'd—fifteen days, from land to land. Well, aint that brig of ourn a beauty! Put a screw into her keel, and wouldn't she worry out a hurrykin. So I warn't so very wrong, you see, in not coming by Cunard. There'd been a saving of four days, and jess a loss of forty dollars. However, here I am, Uncle; and, what's more, I'm here in Plymouth—the old haven of the Pilgrims—the harbour they set sail from 'bove two hundred year ago. Well, aint Time a sorter conjuror! Two centries since and better a handful of suffering English are driven out by their Christian brethren to find a home in the wild woods—to turn the beasts out of their tenements, and pacify the savages; and now their sons are coming back to show their gratitude to England, by helping to pacify the savages she may happen to have at home! Now, aint that behaving prettily? I want to know if that aint suthin' to make the good old krittur proud on us. Aint it the Pilgrim touch repeated—a new edition of the work, adapted to modern notions, with no eend of Yankee notes, and a hull freight of illustrations?

Well, and how about my voyage? S'pose you heerd all about my starting? What a dust it riz about us, and what a jam it gin the Focus; notwithstandin' that all the winter, folks had come crowding round our doors like buffaloes at a salt-lick. The human mind, they say, has got an aggregating tendency, and I guess here was a proof on it. But my last day was the dandy. Then come the show of cattle: such a drove for size and sarsyness, you'd find it hard to cap, I tell you. Such an eternal raft of fellers as come pelting to my bar, if it warn't a sight—no matter! And yet that warn't the wonder nuther; the peck was ful, but it got a topping. They didn't only come, they stuck there; every one on 'em held on as though they'd run to a breaking bank, or to git clear of a whirlwind! I was to sail, you see, at daybreak, and as they considered me their deligit, the man that was to represent them at the Congress of all Nations, they thought it a pint of dooty to stick to me all night, and see my brains were clear at starting; to lay my instructions in afresh, so that they'd keep well through the voyage. Now you see this was a notion that necessitated juleps. These were thinking chaps, the hull on 'em; for any kind of brain-work, fitted up with good machinery. So it warn't likely their idees would turn out of the same pattern; if their textures were all one, that they'd be alike in shape and colour. And yet, differ as they might, as they got to pack away together, to squeeze and fit into a system, how the dogs was it to be managed? Well, of course, there was but one way, and that was by screw preshur; and screw preshur, you know, Uncle, is the first force of mechanics. There's the water screw, for instance, if you're going to pack a cotton ship; and there's the rum-and-water screw, if you're going to jam up men's opinions, and I guess the last is jist as strong, and about a hundred times as pleasant.

But there was a couple all this time there was no screwing—try your darndest. There was Kezy and Abiram. You know Kezy never voted for this voyage of mine to England: allers sot her head agin it, as fierce as a heifer at red flannel; but seeing 'twarn't no use, and I could be as ugly as herself, the poor soul took to sulking, and as the sailing time came on, she raaly began to look as if she was waiting for the sheriff. And the boy was jist as bad. He dittoed her in full. You never seed sich a pair of spectacles since the hour you were raised. They were as dark as Dr. Cox's, and jist as powerful magnifiers. Well, they wouldn't go to bed, nor e'en lie down on the sofy; but Kezy clapp'd herself into the old chair in the back parlor, with her teeth clench'd, and her eyes fix'd, and her face as white and holler as a large-sized chiny basin, and begun rocking away full split at the rate of twenty mile an hour—rocking away, poor soul, as if her wits had bolted, and she was riding after 'em. If she didn't look for all the world like a corpse that was taking exercise. Whilst Abiram sot right agin her, with his elbows on his knees, and his cheeks tuck'd into his fists, and every now and then, was he getting up and going out to have a boohoo in the shed. Well, I aint the moistest man, Uncle my clay is rather tropical—considerable baked; but I guess this was a sight to take the stiffning out of granit. The moment that I seed 'em, I felt about as streak'd as if I'd read a lot of epitaphs, or some of my first love-letters when I shinn'd up to Miriam Gookin. All power's got a limit, and I felt I'd got to mine, and if this sorter game went on, it was gone goose with my departure. I should boohoo out myself, and give up the undertakin'. So you see the case was kritical. There was my dooty on one hand, all the great interests of society, my credit, and, what's more, the repitation of Penobscot; and there was Kezy on tuther, and that little imp Abiram yelling out among the nine pins as if he'd split his cheeks. There was a plank across my heart, and patriot and husband were see-sawing at its eends, up and down alternately; so I seed I must do suthin' to restore my self-possession—some strong act of decision to invigorate my will, and in this kritical conjunctur, I'll jess tell you what I did.

I went up to our bed-room, and pulling out from a top drawer, Kezy's bran noo summer muslins—four of the slickest little notions you ever clapped your eyeson—one a blue spot, one a yaller, and all as big as sarsers, and I made no more to do, but shoved the candle right among 'em, and when they were well alight I begun to sing out "Fire!" Well, that's a word with us that's ginrally electrical. A woman will hear that, when she'll want her lover to speak louder; and I guess Kezy's ears jist then were as open as her optics. She made but one clip up the stairs, taking ten on 'em at once, and when she seed what I had done, though I swore 'twas all an axydent, I want to know if 'twarn't the plug out? if it didn't open the kennel door, and say "Here's suthin' that's larnt barkin?" She'd been restin' her tongue all night, and now didn't it git exercise: she pitch'd at me the dixshunary in first-rate style, I tell you; she called me all the nasty ugly worrits she could think on, all the hateful plagues and torments that ever cuss'd a woman, wished I was gone with all her heart, and wouldn't cry her eyes to jelly if she never seed me back again. So, seeing that pint settled, I went down into the shed, and takin up the cow-skin, I jist called to my Abiram, and told him I wanted to give him a last mark of my affection, and I guess my second settler was as sartin as the first. So I was able arter all, you see, to go abroad with perfect comfort, and should have been convoyed to the wharf by the entire biling of my friends, but that the discussion had overpowered 'em, and I left them stretched about the bar for Kezy to revive at breakfast time, which she could allers do first-rate, for such a style as her'n at a bucket—I guess you never witnesed!

And now, how about the voyage, my first across the ocean—and whoever that may happen to, I hold that that's an ery. I dont keer as to the weather, it may be grandest in a gale, to be runnin over mountains and see sky and water mix, as though the globe was becoming bankrupt, churning up into a new chaos, in order to form a new creation. But s'pose its just as quiet that you aint climbing over summits, but only sliding over medders, or, what's nearer the notion, prairies, in their bare and lifeless solitoods; when for weeks, perhaps for months, you see nothing stretching round you but the solemn waste of ocean, flowing off to the heaven's rim, as though 'twas the edge of a great cataract, over which it sheeted down upon some broken world below. Or look up and see above you those fixed and cons ant heavens, which never move, whatever fury may be going on beneath, till at last you begin to think it is the calm face of eternity looking down on that of time; and what on airth will you find to match it? I want to know if it aint a new world to you, that no dreaming was e'er a door to? Talk about sea voyages as sich good things for the health, it ruther strikes me, in addition, they aint the worst things for the mind!

It's a sight, and that's a fact; but for all that it's got a use—'taint only made for wonder. The rockiest hill will breed a bird, and so the ocean must have a porpus, tho' our thoughts are a sorter flying fish that will neither stop in nor out on it. And yet what is it it says to us? Why what we've allers said ourselves, Uncle, when we've sot pondering and exploring that old map of the world of yourn, that fits in so nicely betwixt the window and the book-case in the parlor at the saw-mills; with its two hemysferes criss-cross'd with lines of latitude and longitude, that look for all the world like a couple of big sieves, which the airth had got chuck'd into, but was too solid to sift thro' (and it's a sample altogether, with its ships scuddin' along, starn uppermost, like hens in a high wind, and its boys riding upon dolphins, big as the state of Massychussetts, to say nuthin' of its emblems of the four quarters of the globe, and Britanny and her trident, and the old lion, looking as usual as if he'd swallow'd all her enemies); I say it does say suthin', uncle, and that's this: "Here rolls a mystery!" And how often have we dittoed it, and wondered how it was, seeing that the world was made for man, and man lives upon the airth, that the airth should nevertheless consist of three parts of water. That's been our bitch, the knot there was no fixin'. All that heap of water—what the stars can it be wanted for? We can't kiver it with ships, and we can't turn ships into cities. We can't build on it, and live on it, as some of the Chinese do. We can't drain it, and we can't drink it, and we can't distil it at a profit. We git our salt cheaper from mines, and no eend to the abundance; and we can't say it was intended to supply the world with food, that man was meant to live on fish, and not on grain or animals; for we know that all his sustenance came into Noah's Ark—and of course there was no fish there, they were all outside! All we can see it serves for is, to keep the world apart, or give 'em reasons for not meeting, to breed hurrykins and quicksands, and bury men and treasures in. Aint it a mystery altogether, as deep as its own bottom?

And yet, I reckon 'taint the only one. Mysteries are a family there's no numbering or sizing. There's geology, for instance, turns 'em up as quick as pebbles, works as well, and knows as much as a pickaxe at a pyramid. Take its fire and water systems, and jess tell me what is their total? One making the globe a copper, and the airth a blazing furnace, with only a tiny crust of matter twixt its fire and the sun, (which of course is jess to say that the biler will go on heating till it turns the world into a stoo, unless we can put the fire out—turn the ocean in upon it, and I s'pose down Mount Vesoovus, as that's the copper funnel); whilst tuther, the water system, makes the globe a sort of mash tub with all creation in a soak, and land and animals coming out on it like turtles on the Bahamas, and as man's among the animals, of course he comes from water too; so I s'pose he was once a mermaid, and if you ask

about his legs, perhaps, as the kritters crawl'd ashore, they split their tails upon the rocks, and so in course of time the two halves took to walking! Now aint that an exalting theory? aint that clearing away a mystery? aint that throwing up a winder, and blowing it off like moke.

Now facts are another matter—facts are a suthin' positive— a sorter domestic animals, that we can turn to use and profit. However strange and shy at startin, we're sure to harness 'em at last. Now here's one the cap'n told me on as we were coming over. I know you'll scarse believe it. You'll vow it's outside of natur; and as to folks in Europe, they'll just swear it's our invention, one of our old pedlar notions—about as genooin as horn gun-flints, or a string of red flannel sassages. And yet facts aint exactly nine-pins, to be bowled over by round words. Facts have got good ankles, and here's one that stands as fast as a buli agin a gateway, or a lightus on a rock. You know it's a law of natur that every thing's in motion, and consequently that everything is allers changing places. Well, the best proof on it is the sea. The sea is changing places, Uncle, shifting suthin' every day, as tho' it had got tired of its old bed, and wanted it shook up agin. The cap'n knows it for a fact, that coasts have riz in one place and gone out of sight in tother; how shores have shrunk to islands, and islands grown to shores; and of course the cap'n knows—a whaler and a Ch nyman, who knows the face of natur as well as his own mother's, and thinks about as little of going round the globe as a fly in our school-room. But I've got to cap the story yet. I aint shoook out half the reef on't. What do you think he says to boot: that the coast that's rising now, actoolly rising at this moment from the bosom of the deep, is that of our own country, yes, actoolly Amerikv. The last survey of Newfoundland shew'd the seaboard was getting up from Cape Ray to Bony Visty; and the cap'n swears it's the fact all the way down to the Gulf, and round Cape Horn, and home agin. So jess cypher out that fact, jess sum it up for a moment. What's its total. Aint it this, that our country is risin' generally, in land as well as people, in mind not more than matter, that mentally and physically she exhibits at this moment a most triumphant instance of harmony and progress.

And so much for the water; and now, how about the land? What do I think of the old country? that's what you want to ask me. What's the size of my first impressions since the day or two I've been here? Well, it aint so hard to tell you, for I guess its nuthin' noo. What is it we've allars heerd both from old folks and from travellers. Why, that England's jist a garden, and I reckon that's the fact; that word's a bit of essence—there's the whole truth in a drop. It's a garden—which allers means a suthin' small, well kept, and beautiful. One of our Eastern fellers told us 'twas like Natur with her hair comb'd! and he hit the fact exactly: it's Natur lovely and well dress'd; Natur tidy as well as beautiful, with nothin' wild and loose about her, but all in order and right trim like one of our Eastern gals in her go-to-meet'n bonnet; You've no notion of its look, Uncle—its bright fields, its bushy woods, and white crystal streaks of water—but more espeshally its greenth, such as you never clapp'd your eyes on, and I really wish you could, for 'twould strengthen 'em much more than those green spectacles you wear. Aunt Huldah is always making you a herb ointment for the eyes, and here you have it natrally—and, what's more, the hull year round. But there's two sides to a pictur—good and evil's allers balanced, and effects must have a cause; and the cause of this, Uncle, is the climate, which is about the wettest in creation. It rains here all the year, more or less, as I've been told, and it don't come down in our style—in good, straight-forard torrents, an honest thoughtful sort of raining, that having seen the fitness, resolves to go the entire tub; but a poor hesitating drizzle, a weak unsartain sort of drip, as tho' the climate was hysterical, and hadn't strength for a good storm. That's its source of beauty, the sky is allers crying, and that keeps its cheeks in bloom; but still for all this moistur, it don't seem at all unhealthy. People live as long as we do; and, what's more, they seem as strong. So it's clear the English system is what they call a good absorbent, tho' perhaps it's arter all what the Doctor means by adaptation. You know he's fond of saying that humanity's a plant—that a certain sky and soil makes it hardy, fair, or fruitful. Well, we in Maine are a sort of pine that requires a dry atmosphere, and here in England they're a kind of orchids, that can only live on moistur!

Such is the old country, Uncle, looking as young and fresh as ever. But what's the look of its chief product? How does the man look that it raises? Well, I wish I could say "Ditto;" but if I can't it ain't a libel, and there's a good deal to be said why it's scarcely to be thought a wonder. You know, Uncle, that I've landed hard and fast among the farmers—that in England, as with us, the west is the agricultural quarter, and the north is the manyfactring; and a farmer I needn't tell you is a different sort of krittur in the old world and the noo. Here he's only a tenant, jist a servant of the landlord, who hires him to do his tillage, and pays him with the surplus that happens to run over the rent. He has to heap his master's peck, and live upon the overflow. Now, with us it's all the other way—with us he's Bos himself; he owns the land he cultivates, and can turn into his own bin, heap and overflow and all; and I guess that makes a difference both in his pocket and his looks. And that don't fence the whole. Here in England he's a sort of patriarch: he's got to keep a dozen families—not only all his own, but all the sogers and the sailors, and the fellers who've got places, and the hull posse of the poor. And that don't top it nuther: whilst with us it's thought enough if a man tackles his own debts, here that's only half; he must square up for other people's—he must pay the cost of wars that were made a hundred years ago, 'bout which he was never ask'd, and from which he gits no benefit; all the good on 'em being squeezed out by the folks that sot 'em going, and all the evil shoved off upon the shoulders of posterity. Now, aint that ruther cruel—aint it, more than than that, unlawful? Aint it agin' the British constitution, taxin' without representin'? Aint it wicked, that, in addition to rent and food and clothing, a man should be charged for glory, such a luxury as that—when, perhaps, he's in want of bread, to make him pay for others pine-apples?

So, standing among the farmers, you won't wonder, I 'spose, at my first impressions of the old country—that it's altogether slow and backard—has a used-up sort of look, a break-down kind of karikter, like an overloaded hoss's, or an overstrain'd free-liver's, that don't think of going forards, but ruther seems considering whether he'll be able to keep his legs—whether, if he makes a move at all, he won't go whop down altogether. Well, but I guess, you'll say, aint there plenty of force to help him—to ease him of his weight—to feed, and rest, and strengthen him—and so, arter a time, get him to jine the ginral progress? Aint their British manyfacturs which yearly increase the revenue, and, whilst sharing the ginral burthens, contribute to reduce them? And aint there the Exhibition, which is to pour into the country not only a congress of all nations, but an influx of all monies, which is to put in circulation a double kind of speshy—human and metallic? What do the farmers say to that? Don't they see no help in that quarter? In six days' time 'twill open, for it's now the 25th. The flood-gates will be up, and the stream will be flowing in; and don't they mean to say it will turn out a proper fertilizer—as good an inundation as ever was heerd on of the Nile? What's their feeling, I want to know; and that of the people ginrally? Well, as I've got to my paper's eend, I'll tell you that by the next ship.—Your dootiful and affectionate

PELEG E. WHEELER.

CHAUCER AND THE EXHIBITION.—Chaucer, it would seem, possessed a prophetic faculty in his prefiguration of this Palace of Glass. The passages we quote occur in the "House of Fame," in the introduction to which the poet describes it as a vision, and speculates upon the causes of dreams, affirming his inability to decide whether

Spirits have the might
To make folks dream o' night;
Or if the soul of proper kind
Be so perfect as men find
That it wote what is to come.

"As I slept," he goes on to say—

I dreamt I was
Within a *temple made of glass*,
In which there were more images
Of *gold* standing in sundry stages,
In more rich tabernacles
And with *jewels* more pinnacles,
And more curious *portraitures*,
And quaint manner of figures
Of gold work than I saw ever.
* * * *

Then saw I stand on either side
Straight down to the doors wide
From the . . . late many a pillar
Of metal that shone out full clear."
* * * *
Then gan I look about and see
That there came entr'ring in the hall
A right great company withal,
And that of sundry regions
Of all kinds of conditions
That dwell in earth beneath the moon,
Poor and rich.
* * * *
Such a great congregation
Of folks as I saw roam about,
Some within and some without,
Was never seen nor shall be no more!

So palpable a coincidence is, to say the least of it, very curious.—*Liverpool Mercury.*

TO CORRESPONDENTS.

PIERCE'S PYRO-PNEUMATIC STOVE.—Mr Pierce has sent to us a very long communication upon the remarks which we have made upon hot-air stoves. As our remarks were upon the whole principle, we hardly feel disposed to open the question for discussion by one manufacturer. As far as his particular pyro-pneumatic stove is concerned, it is entitled to high commendation, and we distinctly stated that it might in many cases be most usefully employed; moreover, there is no question that of this class of stove it is one of the best form which can be used. We think it right to repeat, and strongly enforce, that it is our decided opinion that there is no mode of warming for ordinary dwelling-rooms at all comparable to the ordinary forms of open fire-grates; but we stated that the majority of the Americans have a different opinion, and therefore every person must take the opinion of his own medical attendant as to their relative sanatory importance. Mr Pierce evidently does not quite understand the principle which regulates the qualities of the air from its being heated. He states that he loses no moisture in his stove, but that he simply raises its temperature to 75 or 85 degrees. Now, whenscientific and medical men talk of the dryness of the air, they speak of the difference between the temperature and dew point; and thus a saturated atmosphere at one temperature becomes a very drying air at a higher degree of heat. For this reason gardeners always add water to the air whenever they raise the temperature, and the difference between it and the dew point becomes much increased. In the same way, whenever a current of warmed air is let into a sitting apartment, its hygrometric condition should also be a subject of attention. This matter, however, is very difficult of satisfactory regulation, and for this reason we do not like any form of stove of this principle for ordinary rooms. In some cases these observations do not apply: in others a dry atmosphere is very desirable, and in such cases our readers may safely employ Pierce's Pyro-Pneumatic stove. It is the general principle to which we called attention, and with these observations we must close the subject

INQUIRER—The Deputy-Lieutenants are chosen from the principal landholders of each county, and there is no difference, we believe, with regard to those in Lancashire

A SUBSCRIBER—A magistrate for a county, whether of the quorum or not, must (with some exceptions), as long as he acts as such, be entitled to a landed estate in possession of the clear yearly value of £100, or to one in immediate reversion of the clear yearly value of £300. By the 5 and 6 Will. 4., c. 76 (the Municipal Corporations Act), s. 101, the property qualification is required for a borough magistrate

G F S—The line is from Ovid—"Opiferque per orbem decor;" literally, "I am accounted the bearer of succour throughout the world"

BURTENSHAW—The collectors of the Property and Income-tax are the same as the collectors of the other assessed taxes. We do not believe that it is incumbent to have more than one collector for each township

A SUBSCRIBER—A residence of fifteen days (prior to the granting of the license) in the parish or chapelry where the marriage by ordinary license is to take place is incumbent on one, but not on both the parties marrying. The party resident may be either the lady or the gentleman

W H—The marriage must take place within three months after the full publication of banns, and it must be celebrated in one of the churches where the banns were published

W S W—No; a residence is only incumbent on one or the other party marrying, not so on both. The marriage takes place in the parish or locality where the residence is

L P J—Which family of Johnson?

X C Q—We can find no arms to the name of Copp

PIMLICO—An illegitimate child cannot use arms, unless by grant from the Earl Marshal

PRUDENS QUI PATIENS—The expense of a grant of arms from the Heralds' College is about £75. Napoleon's son, the Duke de Reichstadt, died 22nd July, 1832, in the Palace of Schönbrunn, attended by his mother, who came from Parma to visit him. The representative in blood of the Royal House of Stuart is the Crown Prince of Modena

E F P R—There is no Scotch Baronet Menteith. The present Sir James Stuart Menteath, Bart, of Closeburn, co. Dumfries, is a Baronet of the United Kingdom. His father, the late Sir Charles, was created a Baronet in 1838

E W—Miss Catherine Hayes is not engaged at either of the Italian Opera Houses this season, as she departs for America the first week of August

T S A—There are many arrangements of Scotch and Irish airs, which may be found at any of the great publishing houses in London

VIATOR—By Receiver, our correspondent no doubt means the "Treasurer of a County Court." Such Treasurer need not be a lawyer: he is appointed by the Commissioners of the Treasury

AN OLD SUBSCRIBER—1. Navetay, Coo dalle, Meese on sane. 2. Arg. means *argent*, or silver; gu., *gules*, or red; sa. *sable*, or black; az., *azure*, or blue; vt., *vert*, or green; or *gold*. The crest, named by the French *cimier*, from *cime* the top or apex, is the heraldic device borne on the helmet; the arms are the emblems carried on the shield. The arms of Dunne are "Az. an eagle displayed or. *Crest:* On a mount an oak tree, in front thereof a newt, all ppr."

SUBSCRIBER FROM THE COMMENCEMENT—The Duke of Wellington is Colonel of the Grenadier Guards, and Colonel-in-Chief of the Rifle Brigade. The Duke of Richmond was formerly in the army, and served in Portugal, Spain, and the Netherlands, as aide-de-camp to the Duke of Wellington

ELLA—We can find no arms or crest registered to the name of Deeming. A daughter, having no paternal coat of arms, is not allowed to use those of her maternal grandmother

BATH—Lord Combermere resides at 48, Belgrave-square. Call at the Horse Guards, Whitehall

ARMORIAL—The usage of *any* heraldic device or plate would render the party liable to the tax

ZETA—The usage of the crest in the way mentioned is clearly taxable

A F W—The arms of Woodcock, of New Timber, county Sussex:—"Az. a fesse erm. between three leopards passant or. *Crest:* Out of rays issuing from the wreath or, a demi-peacock displayed arg."

Σιγμα—A son is entitled to quarter with his paternal arms those of his mother, if that lady be dead, and was an heiress or co-heiress, not otherwise. The husband of a lady who was a widow impales her maiden arms with his own

D E O—P B P is entitled to one crest only—that of his paternal ancestors. His mother having been a co-heiress, he has a right to quarter the Evans arms. Miss Plumptre, who married Francis Evans, Esq., was not an heiress. Her father, Septimus Plumptre, brother of John Plumptre, Esq. M P for Nottingham, grandfather of the present member for East Kent, left, besides Mrs Evans, two sons, who have both left issue

J D, Liverpool—The eldest son of an Earl is styled Lord by *courtesy*. Lord Stanley, eldest son of the Earl of Derby, has been summoned to Parliament as Baron Stanley, of Bickerstaffe, and is, consequently, a Peer in his own right

X Y Z—The lady takes no precedence

M E B—Crest of Wainwright:—"A lion rampt. arg., holding an ancient battle-axe, handle of the first, headed or"

E P—The Duc de Bourbon, who succeeded Philip Duke of Orleans in the Regency of France, was representative of the House of Condé, founded by Louis de Bourbon, uncle of Henry IV., King of France. He was ancestor of the ill-fated Duc d'Enghein. The family is now extinct

CONSTANT READER—Apply by letter to the Provost of Trinity College, Dublin

G J. Leamington, is desirous of ascertaining particulars of an Edward Fitzstephens, formerly in the 33d Regiment, and now, it is supposed, in India

ARGENT—We can trace no arms to the name

R W L—The additional surname may be properly and legally assumed by the mere adoption

N B—Henry Home Drummond, Esq., of Blair Drummond, county of Perth, M.P., married, in 1813, Christian, daughter of Charles Murray Stirling, Esq., of Abercairney, in the same shire, and has two sons, George and Charles, and one daughter, Anne, Duchess of Athol

E. L—The faces of the holy Virgin and child, in the arms of the sees of Salisbury and Lincoln, are "or." The face of the Presbyter in those of Chichester is likewise "or." In Oxford, the ladies' faces are "arg."

DELTA—The second insertion of the Barnard arms was the correct one. We do not know the motto

INDIA—Simply "Lady Gomm"

A SUBSCRIBER—Mrs Mirehouse, 66, Upper Seymour-street

J T—Apply at the Prerogative Office, Doctors' Commons

ARTHUR—Advertising in the daily papers is a dangerous mode, and we fear that few places are purchasable.

T J R—Arms of Ritchie: "Quarterly 1st and 4th arg. on a chief gu., three griffins' heads erased or; 2d and 3d az., a crescent or between three crosses fleuthe arg. *Crest:* A unicorn's head arg. *Motto:* Virtute acquirunt bonos."

LAVINIA—The Earl of Stamford and Warrington resides at Enville Hall, near Stourbridge, and at Dunham Massey, near Warrington. Bradgate still belongs to his Lordship

ALBERT A—Grieve, of Edinburgh, bears—"*Arms:* Arg. on a fesse gu. between three square padlocks as an annulet or. *Crest:* An anchor in pale ppr. *Motto:* Candide et cante"

STAINED AND PAINTED GLASS.

ALTHOUGH the art of staining glass is lost in antiquity, its adaptation to pictorial purposes is comparatively recent. Doubtless the mosaics of the Egyptians and Romans originally suggested the idea of transparent glass pictures; for, indeed, the earliest attempts were entirely composed of small pieces of glass of various colours, united by thin strips of lead, as may still be seen in old churches and cathedrals. The first records of pictorial glass work extant date from about the year 800, in the days of Pope Leo III., when so many magnificent ecclesiastical edifices were erected, commenced, and designed.

Venice was chiefly famous for the manufacture of stained glass, the use of which was brought to high perfection with the pointed style of architecture in England. Fine specimens of the art may be seen in York Minster, the collegiate halls and chapels, and especially in the chapel of King's College, Cambridge. It is evident that the art of painting on glass may be divided into two perfectly distinct operations: firstly, the artistic design with reference to the capacities of the materials; secondly, the mechanical or rather chemical preparation and application of the materials themselves. Unlike most other descriptions of painting, in which vegetable as well as mineral colours are freely used, glass requires the exclusive use of mineral colours. The oxides of metals, such as gold, silver, cobalt, &c., are chiefly employed. These colours are, as it were, burnt into the glass. Some of them stain the whole substance, and are quite transparent; others mix with a substance called flux, and vitrify on the surface. These last are more or less opaque or semi-transparent, according to the mode in which they are applied.

Now, the ancients being more moderate in their demands on such a means, were more primitive and, perhaps, more successful in their effects, whilst the moderns have certainly progressed in an artistic point of view, but at the expense of the transparency, breadth, and simplicity of their ancestors. As a general rule, the modern paintings on glass are too much paintings in the strict sense of the word, too opaque in their shadows, and, in fact, too much shaded altogether. Whereas, painting on glass, to be really effective, should be almost entirely outline and colour, and as free from non-transparent, that is, *black*, shading as possible; for it must be remembered that all non-transparent colour becomes mere neutral tint when opposed to light in a window, and that the depth of the tint is mainly regulated by its transparency; hence the somewhat muddy character of the majority of modern paintings on glass. Where, however, the nature of the material is sacrificed to real excellence in the design, we are inclined to make great allowances; but, unfortunately, either most manufacturers of stained glass grudge the expense of employing competent artists to draw for them, or artists of merit consider it beneath their dignity, or, lastly, the patrons of the art themselves regard it in too mean a light, and do not offer an adequate remuneration for the production of such painting on glass in their churches, &c. as we should desire to see, and, seeing, to admire.

Yet there are plenty of young artists who would be glad to make coloured designs for glass windows for a very moderate remuneration, and who are perfectly capable of good composition, correct drawing, and judgment in the arrangement and distribution of the colours. Upon those more especially, who, from the spur given to the art by the present Exhibition, may speedily be called on to fulfil the above requirements, we would impress the following suggestions, which we venture, with all humility, to advance for the guidance of adventurers into a new domain of pictorial creation. In the first place, it must be borne in mind that a stained glass window is not a mere painting, but a means of admitting light, modified and tempered, it is true, but still light, into the building to which it pertains. Hence an additional reason for the all-importance of transparency in glass window-pictures. Secondly, it must be remembered that these pictures are generally seen at a considerable distance; therefore, the boldness, breadth, and, above all, the harmony of the effect, is far more vital to its success than any minuteness of detail. Thirdly, it must be invariably present to the mind of the artist, that he is not producing a work for isolated exhibition, but is labouring in combination with the architect of the edifice which his design is to adorn, and with which it is expected to fill in and harmonise—not to jar and contrast by painful and violent uses of light and shadow, such as, we are sorry to say, the present collection very plentifully offers. Actual white and black (that is, opaque shadow) ought to be almost entirely excluded from works of this kind. In a word, the window ought never to lose for an instant its character as a window, that is, an admitter of light, which is its absolute and æsthetic relation to the walls, columns, and domes of the building it illuminates.

It is certain that the practical art of *staining* glass, which flourished in such perfection during the thirteenth century, has been in a great measure lost, and, notwithstanding all the efforts of modern chemistry to equal and surpass it in purity and brilliance of colour, it remains unrivalled. On the other hand, *painting* on glass, when carried out by artists such as form the exceptions to the strictures above made, is decidedly pushed much further than in former times, as far as mere pictorial excellence is concerned. Whether it has advanced in its legitimate mission, that of an harmonious adjunct to architectural effect, we doubt. A new era has, however, commenced in the art, and we must take it as we find it, merely considering its merits with reference to the object intended to be attained, and not criticising it according to any abstract causes of glass window-painting, which, right or wrong, may form a part of our artistic conscience.

As a general fact, candour compels us to admit, that the English glass-stainers do not take the first rank in this branch of national competition. On taking a first and cursory view of the long range of stained glass windows and medallions in the northern galleries of the Exhibition, our attention was forcibly arrested by the striking works of MM. Marechal and Gugnon, of Metz, which, in almost every requisite quality, far excel all the productions of their competitors. In artistic composition, harmony of colour, and mechanical execution, the prize is unquestionably theirs. In the "Portrait of a Bourgemestre" the richness of the dark yet transparent drapery is very remarkable. Perhaps the head is a little too bright a contrast to the deep background and dress. But in the large painting at its side no such defect is visible. "St. Charles Borromeo giving the Sacrament to the Victims of the Plague," is a masterpiece of mediæval life and sentiment. The drawing of the figures, the devotional sincerity of the expression and the attitudes, the local historical truth in the peculiar cast of feature, all the elements, in fact, of art and skill, sentiment and erudition, are combined in this *chef d'œuvre* of stained glass to render it a fair specimen of the degree of perfection attainable by the present school. The blue sky in the background admirably relieves the warm group of earnest figures in front, and the colouring is of a beauty which reminds one of the early Italian painters in some of their happiest efforts. Nor is it in pictorial effect and drawing only that Marechal of Metz excels. His medallion of the thirteenth century style is an exquisite specimen of colour and design. It harmonizes with the rest of his paintings, and, though simple in its outlines and its colours, it is rich both in chromatic harmony and general effect. There is nothing like it on the walls of the North Gallery. Marechal is, in fact, the one great glass painter and stainer of the present day in Europe. His works have long been known and appreciated in France as the first in that line of art. His paintings in the windows of the church of St. Paul, at Paris, which were furnished some years ago, raised him at once above all his competitors in France, both as a glass stainer and an artist. Without dwelling on the minute gradations of merit in other glass-stainers and painters, we now pass on to a general examination of the works most worthy of attention in the present collection.

Messrs. Chance Brothers, of Birmingham, exhibit a variety of paintings, amongst which we noticed a Virgin in a green robe, well contrasted with some rich crimson drapery. There is much breadth and simplicity about this figure. We also observed a landscape, which would be very well, but for the excess of green in the arrangement of its colour. And here we may pause to mention a very curious fact as to the glass paintings exhibited, viz. that each manufacturer or artist seems to have a peculiar love for one particular colour, in the production of which he succeeds better than in others. Thus, Messrs. Chance's greens are pre-eminent for brightness and transparency; whilst, as we shall presently have occasion to remark, other glass stainers excel in other colours, and affect them more exclusively.

Mr. Edward Baillie exhibits a painting of "Queen Elizabeth listening to the reading of Shakspeare," which surpasses all his rivals in the violent contrast of its lights and shadows, and in the impenetrable opacity of the latter. We cannot say much for the faces or drawing in this group. However, the Queen's white satin robe is very brilliant; and the carpet is really so well executed, that we could have wished the remainder of the picture up to the same level.

Mr. W. Wailes is enterprising in design, and displays considerable brilliance of colour and transparency, but there is a rudeness and harshness about the paintings which is not pleasing.

The St. Helen's Crown, Sheet, and Plate-glass Company send a large painting of "St. Michael and Satan," in which the tail of the arch-enemy is prolonged to an indefinite degree. There is some spirit in the drawing, but the execution is lamentable in every respect.

Some lions and unicorns by Tobay, the former yellow, and the latter white, are not very wonderful productions, nor in any respect likely to outshine the ordinary lions and unicorns of every-day life.

Messrs. Hetley and Co., of Soho-square, have sent a very fine painting of the "Ascension." The rich colour in the foreground contrasts well with the lightly managed atmosphere, against which the figure of the Saviour is seen in a glory very spiritually conceived and executed.

M. P. Lafaye is doubly unfortunate in being placed by the side of Marechal, to whose works his specimens serve as a foil. They are muddy in colour, and very inferior in design.

Henri Fougue, has sent some curious specimens of mezzotinto transparencies, produced by glass or china, carved or modelled so as to produce the different gradations of light, shade, and tone, in a manner remarkable for its softness and purity of effect.

M. Thibaut Dallet has a very brown monk, effectively drawn, but deficient in transparency. His "Judith and Holofernes" is a fierce piece, of strong expression, and somewhat crude but rich effect. Red is evidently the predominating and favourite colour with this artist. The "Lord's Supper," which is unfortunately broken, is more transparent, but with little merit either in design or colour.

Herr Geyling, of Vienna, has a female figure leaning on a window-sill, which resembles an oil-painting in effect. The flesh of the face and hands, and the white chemise, as well as the dress, are very well executed; but we object to the opaque background. As a work of art it reminds one, on the whole, of Jullien's coloured lithographs. We consider this a strong example of success in a line which ought never to be attempted by a glass-stainer.

M. Thevenot is chiefly noticeable for a blue turn of mind in his colouring. He has, however, some very tolerable saints on pedestals, which are edged with gold, most effectively rendered by transparent yellow glazing. His "Radegonda" is a severe figure, with much depth and richness in the colouring, which is yet too opaque for real brilliancy of effect.

We have thus glanced at a few of the most meritorious, or, rather, to speak conscientiously, of the least sinning, amongst the exhibitors in the Stained-glass Gallery. But, in passing out, we will pause for an instant, to regard the painted window representing Dante and some of his ideas, by G. Bertini, of Milan. This work is placed in the Main Avenue, east, in a sort of little chapel formed by drapery of dark cloth, guarded at the entrance and sides by four statuettes from the Niebelungenhied, by Fernconi, cast in iron, remarkable for their Gothic vigour of martial attitude and force. These stern emblems of physical strength and valour are no inapposite guardians of the chapel, in which Dante, the hero poet, is enthroned in all the majesty of the spiritual triumph of genius. He is represented seated in his famous attitude of tremendous meditation; his legs crossed, his eyes fixed upon the Infinite. Around him are the allegorical representations of his sublime fancies, which to the students of the poet will be interesting puzzles, but which neither our space nor our subject permit us at present to enlarge upon. As a painting on glass, we cannot rank this work with those of Marechal. Its undue opacity may, however, be excused as in accordance with the sombre character of the poet of the "Inferno."

Before taking leave of this subject, we would draw this general conclu-

sion from the examples before us—that there are few fields in art or industry that offer more extensive opportunities for improvement and enterprise than the staining and painting of glass for windows of churches or other edifices. And once more we would impress upon the improver and the enterpriser, that simplicity, transparency, and moderation in light and shade are the three great requisites after harmony of colour in this beautiful art, which we hope to see as far extended as the use of glass itself, which already dazzles imagination by the vastness of its actual application and possible future destinies.

The subject of our Illustration is a small Gothic window, by M. Martin, of Troyes. We select it for its quaint imitation of the old style of glass pictures, as regards artistic treatment and brilliancy of colour. It is one of the most curious specimens in the Exhibition to lovers of the ancient glass stainers and their peculiar characteristics.

STAINED GLASS.—BY M. MARTIN DE TROYES.

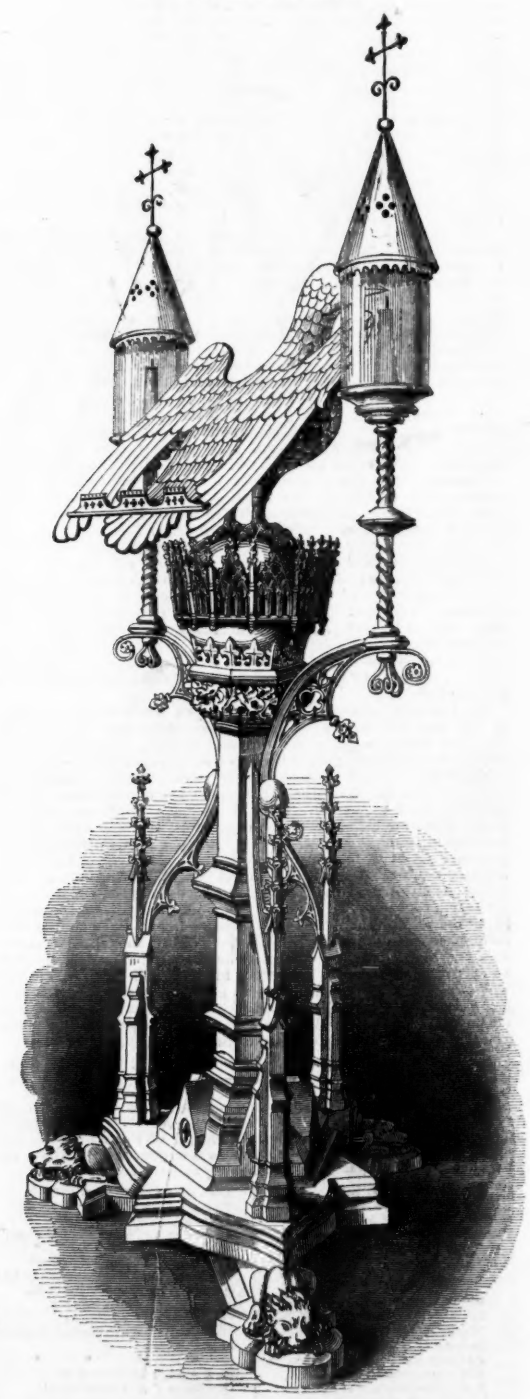
DESIGN FOR A MONUMENT.

Mr. Baker, a young artist, of Southampton, exhibits a new design for a monument, intended as an improvement upon the ordinary run of tombstones and mural tablets so much in vogue. It is a Gothic composition, intended to stand some 20 feet high, though the model is only 4 feet 3 inches high, and is of Caen stone. In form it is triangular, and at the corners are figures of the cardinal virtues—Faith, Hope, and Charity; with appropriate texts from Scripture underneath each. On the principal panel the usual formulary—"In memory of"—is already inscribed, leaving only the name of the party to be inserted. Mr. Baker will, we have no doubt, find some patrons amongst those who have a taste for this sort of posthumous display: but, for our own part, we confess we think that art has been already too much misapplied in these matters; whilst nature, with a few simple everlastings and flowers, would afford a tribute from the living to the dead much more pleasing in effect, and much more congenial in sentiment. In a sanitary point of view, also, such a change would not be unimportant, it being now well ascertained that the planting of trees and flowers in burying-grounds is of positive service to the health of the neighbourhood.

MONUMENT.—BY BAKER.

LECTERN FOR HEREFORD CATHEDRAL. BY COTTERELL.

This is an extremely fine work of its class—a brass lectern, or reading-desk, in strict accordance with the earlier style of church furniture. It stands in the Western Nave.



LECTERN.—BY COTTERELL.

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